



# *U.S. Department of Energy*

## *National Energy Technology Laboratory*



May 1, 2000

Request For Proposal (RFP) No. DE-RP26-00NT40708 for:

### **“Large Scale Equipment Tests for Pipeline Unplugging Technologies”**

Prospective Offerors:

The purpose of this Executive Summary Letter is to highlight salient elements of the RFP. This letter is not an integral part of the RFP which is a self-contained document. In the event of any conflict between the contents of this Executive Summary Letter and that of the RFP, the RFP language will prevail.

The National Energy Technology Laboratory (NETL) is soliciting offers for “Large Scale Equipment Tests for Pipeline Unplugging Technologies.” The Government requirements are detailed in the Statement of Work contained in Section J, Attachment A. The purpose of this effort is to conduct field tests of selected technologies for detecting, reaching, or unplugging blockages within waste transfer pipelines. The field tests shall be conducted on at least one of three Large-Scale Test Beds located at the Florida International University (FIU), Hemispheric Center for Environmental Technology (HCET) in Miami, Florida.

Each offer will be objectively reviewed on its own merit against the evaluation criteria stated in the RFP using technical, scientific and/or peer reviewers, some of whom may be non-Governmental personnel. Should an offeror object to review of their proposals by individuals other than Government employees it shall so state in Volume I of its proposal. Offerors are, however, cautioned that the DOE may be unable to give full consideration to proposals which indicate that only Government evaluation is authorized.

Individuals, corporations, nonprofit organizations, small and small disadvantaged businesses, educational institutions, and state or local governments or other entities who wish to have a proposal evaluated should respond to the requirements of this RFP. Federal agencies and agents (i.e., Management and Operating (M&O) contractors and/or National Laboratories) are prohibited from submitting proposals under this solicitation.

The DOE anticipates award of multiple Firm Fixed Price contracts; but the DOE reserves the right to award the contract type and number deemed in its best interest. It is anticipated that this effort would be completed within an estimated period of performance of between one (1) to three (3) months. The Government does not anticipate providing any facilities or property directly as part of this contract. All facilities, property and utilities to be provided by FIU are listed in Appendix A, Technology Demonstration Test Plan Preparation Guideline.

Proposals must be submitted in accordance with the requirements of the RFP (See Section L). Offerors are also advised to give particular attention to the evaluation criteria identified in Part V, Section M. Each of the required proposal parts should be bound separately and clearly labeled. The proposals must be received by the Contract Specialist not later than 4:00 p.m. local prevailing time on **June 2, 2000**, at the address below:

U.S. Department of Energy  
National Energy Technology Laboratory-Morgantown Site  
ATTN: Vicky L. Shears  
3610 Collins Ferry Road  
Morgantown, WV 26507-0880

Proposals must authorize a period for acceptance by the Government of not less than one hundred eighty (180) calendar days from the date specified for receipt of proposals. Further, you are cautioned that late proposals, modifications, and

withdrawals will be treated in accordance with the article in Section L entitled "Instructions to Offerors - Competitive Acquisition."

Please complete and return the Intention to Propose form at the earliest practicable date. All files are formatted for printing on a post-script type printer. All requests for explanation or interpretation of any part of the RFP shall be submitted in writing to the Contract Specialist at the aforementioned address. Your written questions must be received by the Contract Specialist within seven [7] calendar days after the issuance of the solicitation. The Government reserves the right not to respond to questions submitted after this period, nor to respond to questions submitted by telephone or in person at any time. All amendments will be posted on the NETL Homepage at "<http://www.netl.doe.gov/business/solicit/>"; therefore, offerors are encouraged to periodically check the NETL Homepage to ascertain the status of any amendments as hard copies will not be distributed.

For your information, it is recommended that all prospective offerors download a copy of the DOE "Lobbying Brochure" (<http://www.pr.doe.gov/lobbying.html>) which provides a summary of the statutory and regulatory restrictions regarding lobbying activities for Federal contractors and recipients.

Please note that an automated document writing system has been used to prepare this document. Each provision in the data base has been assigned a number. Not all of the provisions in the data base have been used in this document; therefore, the numbering may not be continuous.

All communications concerning this RFP should cite the RFP number and be directed in writing to the attention of the Contract Specialist via mail at the letterhead address, via fax at (304)285-4683, or via E-mail at "vshear@netl.doe.gov".

Sincerely,

Original Signed by Vicky L. Shears

Contract Specialist  
Acquisition and Assistance Division

Enclosure

<b>SOLICITATION, OFFER AND AWARD</b>		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700) ►		RATING		PAGE OF 1   64 PAGES	
2. CONTRACT NO.		3. SOLICITATION NO. DE-RP26-00NT40708		4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)		5. DATE ISSUED May 1, 2000	
7. ISSUED BY U. S. Department of Energy, Federal Energy Technology Center P.O. Box 880, 3610 Collins Ferry Road Morgantown, WV 26507-0880    ATTN: Vicky L. Shears		CODE		8. ADDRESS OFFER TO (If other than Item 7)			

NOTE: In sealed bid solicitations, "offer" and "offeror" mean "bid" and "bidder."

**SOLICITATION**

9. Sealed offers in original and \_\_\_\_\_ copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in \_\_\_\_\_ until \_\_\_\_\_ local time \_\_\_\_\_.
- (Hour) (Date)

CAUTION — LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL: ►	A. NAME Vicky L. Shears		B. TELEPHONE NO. (NO COLLECT CALLS)		C. E-MAIL ADDRESS vshear@netl.doe.gov
			AREA CODE 304	NUMBER 285-4083	

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	B	SUPPLIES OR SERVICES AND PRICES/COSTS		PART III — LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.			
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**OFFER (Must be fully completed by offeror)**

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within \_\_\_\_\_ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8) ►		10 CALENDAR DAYS %		20 CALENDAR DAYS %		30 CALENDAR DAYS %		CALENDAR DAYS %	
14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated:		AMENDMENT NO.		DATE		AMENDMENT NO.		DATE	
15A. NAME AND ADDRESS OF OFFEROR		CODE		FACILITY		16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)			
15B. TELEPHONE NUMBER			15C. CHECK IF REMITTANCE ADDRESS <input type="checkbox"/> IS DIFFERENT FROM ABOVE — ENTER SUCH ADDRESS IN SCHEDULE			17. SIGNATURE		18. OFFER DATE	
AREA CODE	NUMBER	EXT.							

**AWARD (To be completed by Government)**

19. ACCEPTED AS TO ITEMS NUMBERED		20. AMOUNT		21. ACCOUNTING AND APPROPRIATION			
22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:  <input type="checkbox"/> 10 U.S.C. 2304(c) ( ) <input type="checkbox"/> 41 U.S.C. 253(c) ( )							
23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) ►		ITEM		25. PAYMENT WILL BE MADE BY CODE			
24. ADMINISTERED BY (If other than Item 7) CODE				27. UNITED STATES OF AMERICA  (Signature of Contracting Officer)			
26. NAME OF CONTRACTING OFFICER (Type or print)				28. AWARD DATE			

IMPORTANT — Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

## **SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS**

### **B.1 ITEMS BEING ACQUIRED/TOTAL PRICE (JAN 1999)**

The Contractor shall furnish required personnel, facilities, equipment, material, supplies, and services (except as may be expressly set forth in this contract -as furnished by the Government) and otherwise do all things necessary for, or incident to, **field testing of its pipeline unplugging technology in accordance with the Statement of Work and the Technology Demonstration Test Plan, at the following firm fixed price:**

Firm Fixed Price:                      \$ TBD

## **SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT**

### **C.1 STATEMENT OF WORK (NOV 1997)**

The Statement of Work is located in Part III -- Section J, Attachment A to this contract.

## **SECTION D - PACKAGING AND MARKING**

### **D.1 PACKAGING (FEB 1999)**

Preservation, packaging, and packing for shipment or mailing of all work delivered hereunder shall be in accordance with good commercial practice and adequate to insure acceptance by common carrier and safe transportation at the most economical rate(s).

Except for those reports required by the Reporting Requirements Checklist of the contract, which are coded by A (As required) where the urgency of receipt of the report by the Government necessitates the use of the most expeditious method of delivery, reports deliverable under this contract shall be mailed by other than first-class mail, unless the urgency of the deliverable sufficiently justifies the use of first mail. The Contractor shall not utilize certified or registered mail or private parcel delivery service for the distribution of reports under this contract without the advance approval of the Contracting Officer except for those reports coded A.

### **D.2 MARKING (JAN 1999)**

Each package, report or other deliverable shall be accompanied by a letter or other document which:

- (1) Identifies the contract by number under which the item is being delivered.
- (2) Identifies the deliverable Item Number or Report Requirement which requires the delivered item(s).
- (3) Indicates whether the Contractor considers the delivered item to be a partial or full satisfaction of the requirement.

For any package, report, or other deliverable being delivered to a party other than the Contracting Officer, a copy of the document shall be simultaneously provided to the office administering the contract, as identified in Section G of the contract, or if none, to the Contracting Officer.

## **SECTION E - INSPECTION AND ACCEPTANCE**

### **E.1 INSPECTION (NOV 1997)**

Inspection of all items under this contract shall be accomplished by the DOE Contracting Officer's Representative (COR), or any other duly authorized Government representative.

### **E.2 ACCEPTANCE (MAR 1999)**

Final acceptance of all work and effort under this contract (including "Reporting Requirements," if any) shall be accomplished by the Contracting Officer.

### **E.3 52.246-4 INSPECTION OF SERVICES--FIXED-PRICE. (AUG 1996)**

(a) Definition: "Services," as used in this clause, includes services performed, workmanship, and material furnished or utilized in the performance of services.

(b) The Contractor shall provide and maintain an inspection system acceptable to the Government covering the services under this contract. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the Government during contract performance and for as long afterwards as the contract requires.

(c) The Government has the right to inspect and test all services called for by the contract, to the extent practicable at all times and places during the term of the contract. The Government shall perform inspections and tests in a manner that will not unduly delay the work.

(d) If the Government performs inspections or tests on the premises of the Contractor or a subcontractor, the Contractor shall furnish, and shall require subcontractors to furnish, at no increase in contract price, all reasonable facilities and assistance for the safe and convenient performance of these duties.

(e) If any of the services do not conform with contract requirements, the Government may require the Contractor to perform the services again in conformity with contract requirements, at no increase in contract amount. When the defects in services cannot be corrected by reperformance, the Government may--

(1) Require the Contractor to take necessary action to ensure that future performance conforms to contract requirements; and

(2) Reduce the contract price to reflect the reduced value of the services performed.

(f) If the Contractor fails to promptly perform the services again or to take the necessary action to ensure future performance in conformity with contract requirements, the Government may--

(1) By contract or otherwise, perform the services and charge to the Contractor any cost incurred by the Government that is directly related to the performance of such service; or

(2) Terminate the contract for default.

## **SECTION F - DELIVERIES OR PERFORMANCE**

### **F.1 COMPLETION DATES (NOV 1997)**

The work to be performed hereunder shall commence on the effective date of the contract and shall continue for [TBD] months.

### **F.2 PRINCIPAL PLACE OF PERFORMANCE (FEB 1998)**

The principal place of performance under this contract shall be at the Florida International University (FIU) Hemispheric Center for Environmental Technology (HCET) in Miami, Florida.

### **F.4 52.242-15 STOP-WORK ORDER. (AUG 1989) -- ALTERNATE I (APR 1984)**

(a) The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this contract for a period of 90 days after the order is delivered to the Contractor, and for any further period to which the parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within a period of 90 days after a stop-work is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, the Contracting Officer shall either -

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or Termination clause of this contract.

(b) If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule, the estimated cost, the fee, or a combination thereof, and in any other terms of the contract that may be affected, and the contract shall be modified, in writing, accordingly, if -

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; provided, that, if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon the claim submitted at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.



## **SECTION G - CONTRACT ADMINISTRATION DATA**

### **G.1 CORRESPONDENCE PROCEDURES (FEB 2000)**

To promote timely and effective administration, correspondence (except for invoices and reports) submitted under this contract shall be subject to the following procedures:

(a) **Technical Correspondence**

Technical correspondence (as used herein, this term excludes technical correspondence where patent or technical data issues are involved and correspondence which proposes or otherwise involves waivers, deviations, or modifications to the requirements, terms, or conditions, of this contract) shall be addressed to the DOE Contracting Officer's Representative, with an information copy of the correspondence to the DOE Contract Specialist.

(b) **Property Correspondence**

Property correspondence (as used herein, this term includes correspondence which addresses matters which relate to property issues which come under the contract's Government property provisions) shall be addressed to the DOE Property Administrator, with information copies of the correspondence to the DOE Contracting Officer's Representative and the DOE Contract Specialist.

(c) **Indirect Rate Correspondence**

All correspondence relating to the establishment, revision, and negotiation of billing and final indirect cost rates shall be addressed to the Contracting Officer for Indirect Cost Rate Management, with information copies of the correspondence to the DOE Contract Specialist.

(d) **Correspondence on Patent or Technical Data Issues**

Correspondence concerning patent or technical data issues shall be addressed to the Office of Intellectual Property Law, U.S. Department of Energy, Chicago Operations Office, 9800 South Cass Avenue, Building 201, Argonne, IL 60439.

Information copies of correspondence being sent to the Intellectual Property Law Division shall also be sent to the NETL Patent Attorney, the DOE Contract Specialist, and the Contracting Officer's Representative.

(e) **Other Correspondence**

All other correspondence shall be addressed to the DOE Contract Specialist with information copies of the correspondence to the DOE Contracting Officer's Representative.

(f) **Subject Line(s)**

All correspondence shall contain a subject line commencing with the contract number, i.e., DE-AC26-00NT[TBD], and identifying the specific contract action requested.

### **G.2 SUBMISSION OF VOUCHERS/INVOICES (S)**

(a) **Prompt Payment**

In accordance with FAR 52.232-25, "Prompt Payment," all invoices shall include the following information:

- (1) Name and address of contractor/vendor
- (2) Invoice date
- (3) Contract number or other authorization for delivery of property or service
- (4) Description, price and quantity of property and services actually delivered or rendered
- (5) Shipping and payment terms
- (6) Name (where practicable), title, phone number and complete mailing address of responsible official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment)
- (7) Name (where practicable), title, phone number and complete mailing address of the person to be notified in the event of a defective invoice.
- (8) Other substantiating documentation or information as required by the contract.

(b) Submission of Voucher/Invoice

Submit one copy of the original voucher/invoice to the following payment office:

U. S. Department of Energy  
Oak Ridge Financial Services Center  
P. O. Box 4787  
Oak Ridge, TN 37831

In addition, submit two copies of the voucher/invoice to the following address:

U. S. Department of Energy  
National Energy Technology Laboratory  
ATTN: Accounts Payable, MS A02  
P.O. Box 880  
Morgantown, WV 26507-0880

(c) Payment Method

In accordance with Mandatory Information for Electronic Funds Transfer Payment, payment under this contract will be made utilizing the Automated Clearing House (ACH) network. The payment system is specifically referred to as "Vendor Express."

(d) Defective Invoices

Invoices that are determined to be defective, and therefore not suitable for payment, shall be returned to the Contractor as soon as practicable, specifying the reason(s) why the invoice is not proper.

**G.3 NOTICE OF INVOICE PROCESSING BY SUPPORT CONTRACTOR (DEC 1999)**

A support service contractor performs the function of processing of all invoices submitted to the National Energy Technology Laboratory, against its awards. Therefore, this contractor has access to your business confidential cost/rate information. A special provision in this contractor's award requires the confidential treatment by all contractor employees of any and all business confidential information of other contractors and financial assistance recipients to which they have access.

## **SECTION H - SPECIAL CONTRACT REQUIREMENTS**

### **H.1 CONSECUTIVE NUMBERING (JAN 1999)**

Due to automated procedures employed in formulating this document, clauses and provisions contained within it may not always be consecutively numbered.

### **H.2 TECHNICAL DIRECTION (JUNE 1998)**

(a) Performance of the work under this contract shall be subject to the technical direction of the Contracting Officer's Representative (COR). The term "technical direction" is defined to include, without limitation:

- (1) Directions to the Contractor which redirect the contract effort, shift work emphasis between work areas or tasks, required pursuit of certain lines of inquiry, fill in details or otherwise serve to accomplish the contractual Statement of Work.
- (2) Provision of written information to the Contractor which assists in the interpretation of drawings, specifications or technical portions of the work description.
- (3) Review and, where required by the contract, approval of technical reports, drawings, specifications and technical information to be delivered by the Contractor to the Government under the contract.

(b) Technical direction must be within the scope of work stated in the contract. The COR does not have the authority to, and may not, issue any technical direction which:

- (1) Constitutes an assignment of additional work outside the Statement of Work;
- (2) Constitutes a change as defined in the contract clause entitled "Changes";
- (3) In any manner causes an increase or decrease in the total estimated contract cost, the fixed fee (if any), or the time required for contract performance;
- (4) Changes any of the expressed terms, conditions or specifications of the contract; or
- (5) Interferes with the Contractor's right to perform the terms and conditions of the contract.

(c) All technical directions shall be issued in writing by the COR.

(d) The Contractor shall proceed promptly with the performance of technical directions duly issued by the COR in the manner prescribed by this clause and within the authority under the provisions of this clause. If, in the opinion of the Contractor, any instruction or direction by the COR falls within one of the categories defined in (b)(1) through (5) above, the Contractor shall not proceed but shall notify the Contracting Officer in writing within five (5) working days after receipt of any such instruction or direction and shall request the Contracting Officer to modify the contract accordingly. Upon receiving the notification from the Contractor, the Contracting Officer shall:

- (1) Advise the Contractor in writing within thirty (30) days after receipt of the Contractor's letter that the technical direction is within the scope of the contract effort and does not constitute a change under the "Changes" clause of the contract; or
- (2) Advise the Contractor within a reasonable time that the Government will issue a written change order.

(e) A failure of the Contractor and Contracting Officer to agree that the technical direction is within the scope of the contract, or a failure to agree upon the contract action to be taken with respect thereto shall be subject to the provisions of the clause entitled "Disputes - Alternate I".

### **H.3 MODIFICATION AUTHORITY (NOV 1997)**

Notwithstanding any of the other provisions of this contract, the Contracting Officer shall be the only individual authorized to:

- (a) accept nonconforming work,
- (b) waive any requirement of this contract, or
- (c) modify any term or condition of this contract.

### **H.6 KEY PERSONNEL/PROGRAM MANAGER (MAR 1998)**

The key personnel, which includes the Program Manager, specified below, are considered to be essential to the work being performed under this award; moreover, any changes to these personnel require prior DOE Contracting Officer's written approval.

The Program Manager shall serve as the Contractor's authorized supervisor for technical and administrative performance of all work hereunder. The Program Manager shall receive and execute, on behalf of the Contractor, such technical directions as the DOE Contracting Officer's Representative may issue within the terms and conditions of the contract.

The following is a list of key personnel that have been approved for this contract:

<u>Name</u>	<u>Title</u>
[TBD]	[TBD]

Prior to diverting any of the specified individuals, the Contractor shall notify the Contracting Officer not less than thirty (30) calendar days prior to the diversion or substitution of key personnel and shall submit a written justification (including qualifications of proposed substitutions) to permit evaluation. The proposed changes will be approved in writing at the sole discretion of the Contracting Officer, with concurrence of the Contracting Officer's Representative.

### **H.8 REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF THE OFFEROR (JUNE 1998)**

The Representations, Certifications and Other Statements of the Offeror for this contract are hereby incorporated by reference.

### **H.10 COMPLIANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS (FEB 1998)**

In performing work under this contract, the Contractor shall comply with all relevant federal, state, and local statutes, ordinances, laws, and regulations.

### **H.12 CONTRACTOR PRESS RELEASES (APR 1998)**

The DOE policy and procedure on news releases requires that all Contractor press releases be reviewed and approved by DOE prior to issuance. Therefore, the Contractor shall, at least ten (10) days prior to the planned issue date, submit a draft copy to the Contracting Officer of any planned press releases related to work

performed under this contract. The Contracting Officer will then obtain necessary reviews and clearances and provide the Contractor with the results of such reviews prior to the planned issue date.

#### **H.13 PERMITS AND LICENCES (JAN 1999)**

Within sixty (60) days of award, the Contractor shall submit to the DOE Contracting Officer Representative (COR) a list of ES&H approvals that, in the Contractor's opinion, shall be required to complete the work under this award. This list shall include the topic of the approval being sought, the approving authority, and the expected submit/approval schedule. The COR shall be notified as specific items are added or removed from the list and processed through their approval cycles.

The Contractor agrees to include this clause in their first-tier subcontracts and agrees to enforce the terms of this clause.

#### **H.14 QUALITY ASSURANCE/QUALITY CONTROL (JUNE 1998)**

The Contractor shall implement the DOE work using Quality Assurance/Quality Control measures as appropriate to:

- (a) Achieve accuracy, precision, and reproducibility of data adequate to fulfill the objectives of the work to be performed under this award;
- (b) Control experimental operations using accepted technical standards, instruction, and other appropriate means commensurate with the complexity and the risk of the work;
- (c) Identify, control and maintain components, equipment, facilities, hardware and materials;
- (d) Control handling, storage, shipping. Cleaning and preservation to prevent damage, loss or deterioration;
- (e) Control calibration, maintenance, accountability, and use of measuring and testing equipment used for monitoring and data collection;
- (f) Ensure that designs use sound engineering/scientific principles and appropriate standards and demonstrate that equipment and processes performed as intended;
- (g) Ensure that purchased items and services meet established specifications and requirements;
- (h) Incorporate inspections as appropriate;
- (i) Continually improve the quality of the work done for DOE through the improvement of work practices guided by internal performance assessment.

#### **H.15 SAFETY & HEALTH AND ENVIRONMENTAL PROTECTION (JUNE 1998)**

- (a) The Contractor shall implement the DOE work in accordance with all applicable Federal, State and local law as, including codes, ordinances and regulations, covering safety, health and environmental protection.
- (b) The Contractor agrees to include paragraph (a) of this clause in first-tier subcontracts and agrees to enforce the terms of this clause.

#### **H.16 YEAR 2000 COMPLIANCE (APR 1998)**

Year 2000 compliant means, with respect to information technology, the information technology accurately processes date/time data (including, but not limited to, calculating, comparing, and sequencing) from, into, and

between the twentieth and twenty-first centuries, and the years 1999 and 2000 and leap year calculations, to the extent that other information technology being acquired, properly exchanges date/time data with it.

The contractor assures, by acceptance of this award, that any items delivered under this contract are year 2000 compliant.

#### **H.17 LOBBYING RESTRICTIONS (ENERGY & WATER DEVELOPMENT APPROPRIATIONS ACT, 2000) (DEC 1999)**

The contractor agrees that none of the funds obligated on this award shall be expended, directly or indirectly, to influence congressional action on any legislation or appropriation matters pending before Congress, other than to communication to Members or Congress as described in 18 U.S.C. 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

A copy of the DOE "Lobbying Brochure" which provides a summary of the statutory and regulatory restrictions regarding lobbying activities for Federal contractors can be found at (<http://www.pr.doe.gov/lobbying.html>)

#### **H.20 INSURANCE -- MINIMUM REQUIREMENTS (JAN 2000)**

The Contractor shall provide and maintain workers' compensation, employer's liability, comprehensive general liability (bodily injury), comprehensive automobile liability (bodily injury and property damage) insurance, and such other insurance as the Contracting Officer may require under this contract. Minimum requirements are as follows:

##### **Worker's Compensation and Employer's Liability.**

Contractors are required to comply with applicable Federal and State workers' compensation and occupational disease statutes. If occupational diseases are not compensable under those statutes, they shall be covered under the employer's liability section of the insurance policy, except when contract operations are so commingled with a Contractor's commercial operations that it would not be practical to require this coverage. Employer's liability coverage of at least \$100,000 shall be required.

##### **General Liability.**

Bodily injury liability insurance coverage written on the comprehensive form of policy of at least \$500,000 per occurrence.

##### **Automobile Liability.**

Automobile liability insurance written on the comprehensive form of policy. The policy shall provide for bodily injury and property damage liability covering the operation of all automobiles used in connection with performing the contract. Coverage of at least \$200,000 per person and \$500,000 per occurrence for bodily injury and \$20,000 per occurrence for property damage.

#### **H.21 CONTRACTOR'S LIABILITY FOR TEST BED DAMAGE**

The contractor shall be responsible for any damages to the test beds excluding normal wear and tear resulting from the field test.

## SECTION I - CONTRACT CLAUSES

<u>I.1 52.202-1</u>	<u>DEFINITIONS.</u>	<u>OCT 1995</u>
<u>I.2 952.202-1</u>	<u>DEFINITIONS.</u>	
<u>I.3 52.203-3</u>	<u>GRATUITIES.</u>	<u>APR 1984</u>
<u>I.4 52.203-5</u>	<u>COVENANT AGAINST CONTINGENT FEES.</u>	<u>APR 1984</u>
<u>I.6 52.203-7</u>	<u>ANTI-KICKBACK PROCEDURES.</u>	<u>JUL 1995</u>
<u>I.10 52.222-21</u>	<u>PROHIBITION OF SEGREGATED FACILITIES</u>	<u>FEB 1999</u>
<u>I.11 952.208-70</u>	<u>PRINTING.</u>	<u>APR 1984</u>
<u>I.12 52.209-6</u>	<u>PROTECTING THE GOVERNMENTS INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT.</u>	<u>JUL 1995</u>
<u>I.14 52.215-8</u>	<u>ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT.</u>	<u>OCT 1997</u>
<u>I.29 52.222-26</u>	<u>EQUAL OPPORTUNITY.</u>	<u>FEB 1999</u>
<u>I.30 52.222-35</u>	<u>AFFIRMATIVE ACTION FOR DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA.</u>	<u>APR 1998</u>
<u>I.31 52.222-36</u>	<u>AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES.</u>	<u>JUN 1998</u>
<u>I.32 52.222-37</u>	<u>EMPLOYMENT REPORTS ON DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA.</u>	<u>JAN 1999</u>
<u>I.37 952.224-70</u>	<u>PAPERWORK REDUCTION ACT.</u>	<u>APR 1994</u>
<u>I.38 52.225-1</u>	<u>BUY AMERICAN ACT - BALANCE OF PAYMENTS PROGRAM -SUPPLIES.</u>	<u>FEB 2000</u>
<u>I.39 52.225-11</u>	<u>RESTRICTIONS ON CERTAIN FOREIGN PURCHASES.</u>	<u>AUG 1998</u>
<u>I.41 52.227-1</u>	<u>AUTHORIZATION AND CONSENT. (JUL 1995) -- ALTERNATE I</u>	<u>APR 1984</u>
<u>I.42 52.227-2</u>	<u>NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT.</u>	<u>AUG 1996</u>
<u>I.44 952.227-11</u>	<u>PATENT RIGHTS - RETENTION BY THE CONTRACTOR (SHORT FORM).</u>	<u>FEB 1995</u>
<u>I.45 952.227-13</u>	<u>PATENT RIGHTS - ACQUISITION BY THE GOVERNMENT.</u>	<u>SEP 1997</u>
<u>I.46 FAR 52.227-14</u>	<u>RIGHTS IN DATA (JUN 1987) WITH ALTERNATE V (JUN 1987) AS AMENDED BY DEAR 927.409</u>	<u>JAN 1999</u>
<u>I.49 52.227-16</u>	<u>ADDITIONAL DATA REQUIREMENTS.</u>	<u>JUN 1987</u>
<u>I.51 52.227-23</u>	<u>RIGHTS TO PROPOSAL DATA (TECHNICAL).</u>	<u>JUN 1987</u>
<u>I.60 52.232-1</u>	<u>PAYMENTS.</u>	<u>APR 1984</u>
<u>I.61 52.232-8</u>	<u>DISCOUNTS FOR PROMPT PAYMENT.</u>	<u>MAY 1997</u>
<u>I.62 52.232-11</u>	<u>EXTRAS.</u>	<u>APR 1984</u>
<u>I.67 52.232-23</u>	<u>ASSIGNMENT OF CLAIMS.</u>	<u>JAN 1986</u>
<u>I.68 52.232-25</u>	<u>PROMPT PAYMENT.</u>	<u>JUN 1997</u>
<u>I.69 52.232-33</u>	<u>PAYMENT BY ELECTRONIC FUNDS TRANSFER -- CENTRAL CONTRACTOR REGISTRATION.</u>	<u>MAY 1999</u>
<u>I.70 52.233-1</u>	<u>DISPUTES. (OCT 1995) -- ALTERNATE I</u>	<u>DEC 1991</u>
<u>I.71 52.233-3</u>	<u>PROTEST AFTER AWARD. (AUG 1996) -- ALTERNATE I</u>	<u>JUN 1985</u>
<u>I.72 952.235-70</u>	<u>KEY PERSONNEL.</u>	<u>APR 1994</u>
<u>I.76 52.243-1</u>	<u>CHANGES - FIXED-PRICE (AUG 1987 -- ALTERNATE I (APR 1984)</u>	
<u>I.80 52.244-6</u>	<u>SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS.</u>	<u>OCT 1998</u>
<u>I.81 52.245-2</u>	<u>GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS).</u>	<u>DEC 1989</u>
<u>I.82 952.245-2</u>	<u>GOVERNMENT PROPERTY FIXED-PRICE CONTRACTS</u>	
<u>I.84 952.247-70</u>	<u>FOREIGN TRAVEL.</u>	<u>FEB 1997</u>
<u>I.85 52.249-1</u>	<u>TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE)(SHORT FORM)</u>	<u>APR 1984</u>
<u>I.86 52.249-9</u>	<u>DEFAULT (FIXED-PRICE RESEARCH AND DEVELOPMENT).</u>	<u>APR 1984</u>
<u>I.87 952.251-70</u>	<u>CONTRACTOR EMPLOYEE TRAVEL DISCOUNTS.</u>	<u>JUN 1995</u>
<u>I.88 52.253-1</u>	<u>COMPUTER GENERATED FORMS.</u>	<u>JAN 1991</u>

## **SECTION J - LIST OF ATTACHMENTS**

### **J.1 LIST OF ATTACHMENTS (MAR 1999)**

ATTACHMENT	DESCRIPTION	PAGE
A	Statement of Work	15
B	Background to the Statement of Work	17
C	Test Plan	19
D	Health and Safety Certification	20
E	Job Safety Analysis Form	21
F	Contractor/Manufacturer Data for Comparative Database	22
G	Field Test Evaluation Parameters	27



Note: The actual Statement of Work for each contract will reflect the testing to be done by that contractor.

## **STATEMENT OF WORK**

### **“Large Scale Equipment Tests for Pipeline Unplugging Technologies” DE-RP26-00NT40708**

#### **A. OBJECTIVES:**

The objectives of this project are to field test and evaluate technologies under standardized, non-nuclear conditions that can perform any or all of the following: detecting blockages in waste transfer pipelines, reaching blockages in waste transfer pipelines and unplugging blockages in waste transfer pipelines. The technologies will be considered for deployment in high-level radioactive waste transfer pipelines at the DOE Savannah River and Hanford sites. Contractors shall demonstrate the performance of its equipment or technologies to achieve any or all of the following:

- Detect blockages in single and double-wall waste transfer pipelines through the ground.
- Provide a mechanism to deliver equipment to a blocked location within the pipeline or initiate a process for unplugging (potentially at great distance from the access point).
- Dislodge the blockage within the pipeline.

#### **B. SCOPE OF WORK:**

A field test shall be conducted on at least one of three Large-Scale Test Beds located at the Florida International University (FIU), Hemispheric Center for Environmental Technology (HCET) in Miami, Florida. The contractor shall demonstrate its technology in accordance with its test plan developed in coordination with FIU-HCET. The results of the field test will become part of reports submitted to DOE by FIU-HCET. These reports will assist DOE's Tank Focus Area technical teams or site managers in the selection of the most efficient, cost-effective, and safest technologies to unplug high-level radioactive waste transfer pipelines based on their site-specific needs.

#### **C. TASKS TO BE PERFORMED:**

##### **TASK 1 -- MOBILIZATION**

After contract award and two weeks prior to the field test, the following shall be submitted by the contractor to FIU-HCET (with an information copy to the DOE/COR) so that a site work permit can be prepared and posted.

Proof of Insurance

Health and Safety Certification (Attachment D) (only if respirators will be used)

Job Safety Analysis Form (Attachment E)

Contractor/Manufacturer Data for Comparative Database (Attachment F)

Technology Manuals (if any available)

Confirmation of Demonstration Schedule

The contractor shall mobilize the pipeline unplugging technology in preparation for the field test at FIU-HCET. The technology shall be deployed in accordance with the approved Test Plan. The contractor shall comply with all Federal, state and local regulations with regard to setting up and conducting the field test of its pipeline unplugging technology.

## **TASK 2 -- OPERATIONS**

The contractor shall perform a field test of its pipeline unplugging technology on at least one of the three Large-Scale Test Beds at FIU-HCET in accordance with the approved test plan. The Contractor shall be responsible for demonstrating and optimizing the operation of its technology.

Evaluation of the field test shall be conducted by FIU-HCET in accordance with Attachment G - Field Test Evaluation.

## **TASK 3 -- DEMOBILIZATION**

The contractor shall demobilize the pipeline unplugging technology at the conclusion of the operations phase.

### **D. DELIVERABLES:**

The contractor will receive a draft Data Entry Form for the "Multimedia Information System" database which will contain all the data collected by the FIU-HCET evaluators on the contractor's technology as well as photos taken during the field test. The contractor shall provide comments on the draft package to the DOE-COR within 30 calendar days after receipt.

## **BACKGROUND**

### **“Large Scale Equipment Tests for Pipeline Unplugging Technologies”**

DE-RP26-00NT40708

The U.S. Department of Energy (DOE) needs safe and efficient technologies for radioactive tank waste retrieval, immobilization, and disposal activities. As tank clean-out and decommissioning activities begin at DOE sites, the possibility increases for high-level radioactive waste transfer lines becoming plugged and unable to transport waste. Whereas some sites, such as Savannah River, Hanford, and Oak Ridge, experienced blocked lines in the past, plugging may recur at these sites at the onset of waste transfer. Plugged pipelines represent a considerable hazard as well as a loss of time and money.

In order to meet DOE's needs for waste transfer technologies, the Florida International University, Hemispheric Center for Environmental Technology (FIU-HCET) was contracted by DOE to conduct laboratory-scale and large-scale research studies regarding pipeline plugging mechanisms and possible pipeline unplugging technologies in waste transfer pipelines. The objectives of lab-scale research were to:

- investigate the mechanism of slurry behavior in a flow loop.
- obtain slurry transport data to avoid plugging of pipeline.
- create the blockage conditions that will be used on the large-scale Test Beds.
- design and then construct three Large-Scale Test Beds

Three large-scale Test Beds were recently constructed at FIU-HCET and will be used to conduct field tests of various selected technologies for detecting, reaching and unplugging pipeline blockages during the year 2000. FIU-HCET is under DOE contract to record all performance data yielded from each field test of a pipeline unplugging technology performed by the technology contractor's personnel, evaluate the field test data and prepare a technology report on each field test.

As a first step for the technology field tests, the National Energy Technology Laboratory (NETL) will solicit technologies for either detecting, reaching or unplugging pipeline blockages. Proposers to this solicitation will identify which of the three large-scale Test Beds at FIU-HCET should be used and what adjustments or modifications should be made (if any) to best demonstrate its pipeline unplugging technology performance. The technology contractor shall develop a test plan in coordination with FIU-HCET to best exhibit its technology. The offeror shall include this information in its proposal as per contract section L.15, Proposal Preparation Instructions. After contract award, the selected technologies shall then be field tested on one or more of the three Test Beds located at FIU-HCET, Miami, Florida.

After each field test of a pipeline unplugging technology, FIU-HCET will publish a Technology Demonstration Report containing demonstration statistics and evaluation of the technology along with recommendations for deployment at DOE sites. The technology evaluation results will be published by FIU-HCET in both a Monthly and a Year-End Report to DOE. In addition, a summary of successful pipeline unplugging technology evaluations will be published on the FIU-HCET Internet web site within 60 days of a technology demonstration completion.

**The FIU-HCET address is:**

Hemispheric Center for Environmental Technology  
Florida International University  
10555 West Flagler St., Suite #2100  
Miami, FL. 33174

**Directions from Miami International Airport to FIU-HCET Center for Engineering and Applied Science:**

- From the Airport, take the Lejeune Rd. South-Coral Gables exit.
- After approx. ½ mile, take the exit to the 836 West Expressway and stay in the right lane.
- Travel approx. five miles. Exit on South NW 107<sup>th</sup> Avenue. (Do not be confused with the North NW 107<sup>th</sup> Avenue exit.)
- The Center for Engineering and Applied Science building is on the left, approx. two miles South from the exit. (Northeast corner of W. Flagler St. and NW 107<sup>th</sup> Avenue)
- Three Test Beds are located at Northeast corner of the FIU-HCET site.

Technology Test Plan

[Contractor's technology test plan will be inserted as Attachment C]

**Health and Safety Certification**  
**“Large Scale Equipment Tests for Pipeline Unplugging Technologies”**  
**DE-RP26-00NT40708**

As the designated representative for \_\_\_\_\_,  
(Company Name)

I hereby certify that all technology operators involved in conducting the

Pipeline Unplugging Technology field test at Florida International University's

Hemispheric Center for Environmental Technology on \_\_\_\_\_ satisfy  
(Demonstration Dates)

the following health and safety criteria:

Operators are in satisfactory health (as determined by a physician) to perform activities that are related to the operation of the technology in potentially elevated temperature and humidity conditions;

Operators are respirator fit-test certified according to the Code of Federal Regulations (29 CFR 1910.1001) if required to use a respirator during the field test; and

Operators will arrive prepared to wear at a minimum level D personal protective equipment (PPE) at all times while on the FIU-HCET technology assessment site. Level D PPE includes a shirt, work gloves, long pants, and safety glasses. Additional PPE may be required during the field test, as determined by the contractor, depending on the nature of the technology. The contractor has consulted a health and safety professional regarding PPE requirements for the technology being demonstrated.

\_\_\_\_\_  
(Representative's Signature)

\_\_\_\_\_  
(Representative's Name – Printed or Typed)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

**JOB SAFETY ANALYSIS FORM**

**“Large Scale Equipment Tests for Pipeline Unplugging Technologies”  
DE-RP26-00NT40708**

**Technology Name:** \_\_\_\_\_ **Demonstration Date:** \_\_\_\_\_

**Contractor:** \_\_\_\_\_ **Analysis by:** \_\_\_\_\_ **Title:** \_\_\_\_\_

**REQUIRED AND/OR RECOMMENDED PERSONAL EQUIPMENT:**

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**SEQUENCE OF  
BASIC  
JOB STEPS**

**POTENTIAL  
ACCIDENT  
HAZARDS**

**RECOMMENDED  
SAFE  
JOB PROCEDURE**

**Contractor/Manufacturer Data for Comparative Database**  
**“Large Scale Equipment Tests for Pipeline Unplugging Technologies”**  
**DE-RP26-00NT40708**

**Table 1 GENERAL INFORMATION ABOUT TECHNOLOGY**

<b><u>DATA</u></b>	<b><u>DESCRIPTION</u></b>
Technology Name	The generic name of the technology. Examples include: Snake Blaster Pig Finder Water Detector
Technology Model Number	Unique identifier for the technology model. Typically supplied by the manufacturer.
Technology Model Description	Technical description of the technology including basic principle(s) and operational parameters and conditions. Discuss all pieces of equipment required by the original manufacturer (e.g., pipe, pig) for this technology model. <b>Include dimensions and weight of technology model.</b> Also, include discussion on how waste is routinely contained for this model if there is any.
Maturity of Technology	The maturity of the technology at the time of the field test. Choose from: Commercially available or Prototype
Utility Requirements for Technology Model	Energy and material requirements. Includes compressed air and water requirements, etc.
Technology Model Capital Costs	The vendor's current list price for the entire technology model. Include cost of all pieces (e.g., pig, pipe) that are part of the technology model.



**Table 1 GENERAL INFORMATION ABOUT TECHNOLOGY (Continued)**

<b>DATA</b>	<b>DESCRIPTION</b>
Support Equipment and Cost	List any required support equipment (not utilities) that are included in the field test. Include description of each and associated capital costs. Examples include: Detector supporter, \$500 high pressure generator, \$200
Useful Life Expectancy	The number of years that the technology model can possibly be used for its specified purpose.
Applicable Pipe Diameters	Select all possible pipe diameters to which the technology model can be applied. Choose from the following: (May include more than one option.) 1-inch, 2-inch, 3-inch, and/or 4-inch
Applicable Geometries	Select all possible geometries to which the technology model can be applied. Choose from the following: (May include more than one option.) Single and/or double pipes
Consumables and Cost	List expendable items and associated costs for each item, used with the technology that are typically discarded at the end of a job. Examples include: Cleaning cloth, \$10 gloves, \$20
Portability Options	Select one or more ways that are ways for removing the technology model from the transportation vehicle once it arrives at the facility where the field test is to be performed. Options include: 1 person needed – the technology model is small/light and easily carried by one person 2 people needed – the technology model is not as small/light and requires two people to carry it Forklift needed – the technology model is large/heavy and requires a forklift to remove it from the vehicle Truck/trailer mounted – the major pieces of the technology model are not removed from the truck/trailer but instead are operated from this location

**Table 2 CONTRACTOR INFORMATION**

<b><u>DATA</u></b>	<b><u>DESCRIPTION</u></b>
Name and Address	Information to be collected about the company that was chosen as the contractor for this particular field test.
Phone Number(s)	Include area code. Include pager number or second phone number (if applicable).
Fax Number(s)	Contractor's fax number including area code.
Web-site	Internet web-site location for vendor (if applicable).
E-Mail	E-mail address for the vendor where information can be requested.
Services Available	What services the vendor provides. Chosen from one of the following: Service provider Sells technology model * Rents technology model * (* When these items are chosen, if the manufacturer will train site personnel, include technology model training time.)
References	List of locations where this technology model has been used previously (especially other DOE or commercial nuclear facilities).
Publications	List of brochures or publications that provides additional information about the technology and/or the company.

**Table 3 MANUFACTURER INFORMATION**

<b><u>DATA</u></b>	<b><u>DESCRIPTION</u></b>
Name and Address	Information to be collected about company that manufactured the technology model.
Phone Number(s)	Include area code. Include pager number or second phone number (if applicable).
Fax Number(s)	Manufacturer's fax number including area code.
Web-site	Internet web-site location for manufacturer (if applicable).
E-Mail	E-mail address for the manufacturer where information can be requested.
Services Available	What services the manufacturer provides. Chosen from one of the following: Service provider Sells technology model * Rents technology model * (* When these items are chosen, if the manufacturer will train site personnel, include technology model training time.)
References	List of locations where this technology model has been used previously (especially other DOE or commercial nuclear facilities).
Publications	List of brochures or publications that provides additional information about the technology model and/or the company.
Photographs/video	If photographs or video is received from the manufacturer and sent for inclusion in the database for the project, identify an item and the number of each sent to FIU-HCET.

**Table 4 CONTRACTOR SUPPLIED INFORMATION ABOUT TECHNOLOGY**

<b><u>DATA</u></b>	<b><u>DESCRIPTION</u></b>
Required Personnel for Operation	Manpower requirements for operation of this technology. Distinguish between number of equipment operators and number of technicians required.
Technology Model Availability	Average expected delay between order placement and vendor delivery.
Scale-up Requirements	Provide a description of what equipment/personnel would be changed or added by the contractor
Maintenance Requirements	Listing of the maintenance requirements for the technology model. Include time frames to perform maintenance. Examples include: change filter every six months add oil to motor at end of every day
Total Maintenance Cost per ft	Include total cost of regular maintenance per foot of pipe length.

**FIELD TEST EVALUATION PARAMETERS**  
**“Large Scale Equipment Tests for Pipeline Unplugging Technologies”**  
**DE-RP26-00NT40708**

## **1.0 GENERAL**

The contractor's Test Plan shall define a technology specific test case that will provide the basis for the field test of the contractor's technology under standardized, non-nuclear conditions at FIU-HCET's field test site. The contractor shall be responsible for conducting the field test and optimizing the operation of its technology. Performance data yielded from the field test performed by the technology contractor's representatives will be recorded by FIU-HCET evaluators. Data to be collected by FIU-HCET evaluation personnel include time studies, physical measurement, and visual inspection. An International Union and Operating Engineers (IUOE) representative may be on-site to assess the technology with regard to health and safety factors. Photographs and video taping will also document the technology in operation.

For both the blockage removal and blockage location equipment, the performance assessment shall include how effectively the equipment negotiated the line, removed the blockage, and how readily adaptable the method would be for deployment at a DOE site.

General data recorded during all field tests include:

- mobilization and demobilization times
- portability
- maneuverability
- field test statistics
- required PPE
- general health and safety information
- total volume of waste measured

## **2.0 TEST BED #1**

### **2.1 Performance Measures Test Bed #1 - Reaching and Unplugging Technology**

The equipment must break up the blockage, disperse it by pumping or flushing out of the pipeline by an operating jumper at the pipe entrance. Test Bed #1 can also be used to see how effectively the technology can reach inside the complex pipe geometry including the SRS Evaporator Jumper. Criteria for the reaching system is described in Section 3.1 below.

Some of the criteria for unplugging technologies include:

- system applicability to line sizes and lengths as well as the nature of the blockages,
- equipment associated with the method may need to operate effectively while fully or partially submerged in aqueous solution,
- minimum number of system entry/withdrawal cycles from the pipeline,
- invasive equipment must be recoverable,
- recovery plan of stranded invasive equipment must not require disassembly, modification, or damage to the line,

- invasive blockage detection equipment for the reaching technology must be recoverable.

## **2.2 Data to Be Collected for Test Bed #1**

- time consumed
- unplugging efficiencies
  - Removed mass/ Total blockage mass
  - Open area after unplugging/ Area of pipeline section
- reaching distance capability
- recovery capability of equipment

## **3.0 TEST BED #2**

### **3.1 Performance Measures for Test Bed #2 - Reaching and Unplugging Technology**

A reaching system can be self-propelled or remotely operated from outside the pipe. It may be a self-contained unattached system or drag one or more umbilical lines that supply various services including the propelling force. It may also transmit a force up the pipe without mechanical intrusion. The inner walls of the pipe may support or guide the movement of the reaching system when the equipment travels through successive bends with close proximity. Some of the criteria for reaching system technologies include:

- capable of advancing through an empty pipe, a partially liquid-filled or a liquid-filled pipe,
- capable of negotiating 90° bends that may exist along the pipe route,
- capable of transmitting sufficient force to the section being pushed from the pipe entrance,
- capable of safely recovering the equipment after the field test,
- unplugging capabilities as listed in Section 2.1 above except that the blockages will be clay-like and fill a section of the pipe completely,
- invasive blockage detection equipment for the reaching technology must be recovered.

### **3.2 Data to be Collected for Test Bed #2**

- distance reached by equipment
- reaching time
- unplugging efficiencies
  - Removed mass/ Total blockage mass
  - Open area after unplugging/ Area of pipeline section
- recovery capability of equipment

## **4.0 TEST BED #3**

### **4.1 Performance Measures for Test Bed #3 - Underground Detecting Technology**

Locating and removing the blockages may be combined in one operation, or may involve independent equipment and procedures. If locating and removing the blockage are performed as independent operations, the operation should not require excavation of the pipeline or entrance of the equipment into the line. Such a method would use equipment

positioned above ground to determine the location of a blockage in the core of a buried, jacketed pipe assembly . The equipment must possess the sensing device that detects blockage through the ground. The technology contractor will receive material compositions of the blockage prior to the field test to fine-tune the detection system. The material to be detected may be negotiated by the technology contractor as part of the Test Plan.

Some of the criteria for a pipeline blockage detecting technology include:

- capable of detecting a blockage in a jacketed pipe buried up to the depth of 5 feet.
- capable of detecting a blockage made of a single unit of certain rigid or flexible consistent material of arbitrary length and at random locations or by other indicators such as locating water or a gamma source in a buried pipe.

#### **4.2 Data to be Collected for Test Bed #3**

- detecting accuracy (number of blockages accurately detected)
- blockage material sensitivity
- blockage location sensitivity

### **5.0 DATA COLLECTION METHODS**

Data will be taken by FIU-HCET evaluators based on the method set forth by the technology manual, if available, to be supplied by the technology contractor. Each technology is unique, however, following examples of observation methods may be used to obtain data: direct measurement, computer analysis, and visual scrutiny.

#### **5.1 Data Quality**

When data sheets are used by FIU-HCET evaluators, the data sheets shall include the units of measure and the decimal precision. Typical evaluation parameters to be recorded or calculations to be performed on data sheets include the following:

##### *Percent Accuracy*

$$\% A = 100 \times (\bar{X} - \hat{X}) / \hat{X}$$

The difference between the mean of the set of results and the value X, which is accepted as the true or correct value for the quantity measured.

##### *Precision*

$$s = \sqrt{\sum_{i=1}^n (X_i - \bar{X})^2 / (n-1)}$$

The standard deviation.

##### *Mobilization Time*

Mobilization Time (hours) = time from when the vendor arrives at the field test site to when the technology model is ready to operate.

##### *Demobilization Time*

Demobilization time (hours) = time from when the technology finished field testing to when the vendor leaves the field test site.

#### *Time Consumed*

Time consumed (hours) = time for how long it takes for technology to start operating and then to finish its field test.

#### *Unplugging Efficiency*

Efficiency<sub>mass</sub> (%) = Removed mass / Total blockage mass

Efficiency<sub>area</sub> (%) = Open area after unplugging / Area of blockage cross section

#### *Reaching Speed*

Reaching speed (ft /min) = Distance reached / Reaching time

Distance reached (feet) is the distance the technology can reach inside the pipeline from the entry.

Reaching time (minutes) is the average elapsed time it takes the technology to successfully reach the blockage.

### **5.2 Data Control**

Data will be collected by FIU-HCET evaluators and recorded in the data sheets to be used for post-field test calculations. Data will be verified for correctness and completeness and handled for traceability and to prevent data loss.

### **5.3 Data Evaluation**

Data will be checked by FIU-HCET for accuracy, completeness, and correctness. Data evaluations shall be documented, signed, and dated.

### **5.4 Measuring and Test Equipment**

For any contractor equipment that may need calibration , the contractor's technology manual will be referred for calibration limit(s) and calibration frequency.

The IUOE instrument used for monitoring sound levels is a Quest Q-3000 noise dosimeter and a Quest Temp 15 Heat Stress Monitor is used for monitoring heat stress.



**SECTION K - REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS  
OR QUOTERS**

**K.1 52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN  
FEDERAL TRANSACTIONS. (APR 1991)**

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989 -

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

**K.2 52.204-3 TAXPAYER IDENTIFICATION. (OCT 1998)**

(a) Definitions.

"Common parent," as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

"Taxpayer Identification Number (TIN)," as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal

Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) Taxpayer Identification Number (TIN).

☐ TIN: \_\_\_\_\_

☐ TIN has been applied for.

☐ TIN is not required because:

☐ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

☐ Offeror is an agency or instrumentality of a foreign government;

☐ Offeror is an agency or instrumentality of the Federal Government.

(e) Type of organization.

☐ Sole proprietorship;

☐ Partnership;

☐ Corporate entity (not tax-exempt);

☐ Corporate entity (tax-exempt);

☐ Government entity (Federal, State, or local);

☐ Foreign government;

☐ International organization per 26 CFR 1.6049-4;

☐ Other \_\_\_\_\_

(f) Common parent.

☐ Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

☐ Name and TIN of common parent:

Name \_\_\_\_\_

TIN \_\_\_\_\_

**K.3 52.204-5 WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS). (MAY 1999)**

(a) Definition. Women-owned business concern, as used in this provision, means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) *Representation.* [Complete only if the offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (b)(1) of FAR 52.219-1, *Small Business Program Representations*, of this solicitation.] The offeror represents that it [ ] is a women-owned business concern.

**K.4 52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS. (MAR 1996)**

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that -

(i) The Offeror and/or any of its Principals -

(A) Are [ ] are not [ ] presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have [ ] have not [ ], within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are [ ] are not [ ] presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision (a)(1)(i)(B) of this provision.

(ii) The Offeror has [ ] has not [ ], within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision.

The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

**K.5 52.215-6 PLACE OF PERFORMANCE. (OCT 1997)**

(a) The offeror or respondent, in the performance of any contract resulting from this solicitation, \_\_\_\_ intends, \_\_\_\_ does not intend (check applicable block) to use one or more plants or facilities located at a different address from the address of the offeror or respondent as indicated in this proposal or response to request for information.

(b) If the offeror or respondent checks "intends" in paragraph (a) of this provision, it shall insert in the following spaces the required information:

PLACE OF PERFORMANCE  
(STREET ADDRESS, CITY,  
STATE, COUNTY, ZIP CODE

NAME AND ADDRESS OF OWNER  
AND OPERATOR OF THE PLANT  
OR FACILITY IF OTHER THAN  
OFFEROR OR RESPONDENT

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**K.6 52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS. (MAY 1999) -- ALTERNATE I (NOV 1999)**

(a)(1) The standard industrial classification (SIC) code for this acquisition is 8731.

(2) The small business size standard is 500 or less employees..

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it [ ] is, [ ] is not a small business concern.

(2) (Complete only if offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, as part of its offer that it (\_\_\_) is, (\_\_\_) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it [ ] is, [ ] is not a women-owned small business concern.

(4) [Complete only if offeror represented itself as a small business concern in paragraph (b)(1) of this provision.] The offeror represents, as part of its offer, that--

(i) It [ ] is, [ ] is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in

ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR Part 126; and

(ii) It [ ] is, [ ] is not a joint venture that complies with the requirements of 13 CFR Part 126, and the representation in paragraph (b)(4)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. [The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture: \_\_\_\_\_.] Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(c) Definitions.

"Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

"Woman-owned small business concern," as used in this provision, means a small business concern -

(1) Which is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice. (1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small or small disadvantaged business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall -

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

**K.7 52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS. (FEB 1999)**

The offeror represents that -

(a) It ( ) has, ( ) has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

(b) It ( ) has, ( ) has not filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

**K.8 52.222-25 AFFIRMATIVE ACTION COMPLIANCE. (APR 1984)**

The offeror represents that -

(a) It \_\_\_ has developed and has on file, \_\_\_ has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2); or

(b) It \_\_\_ has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

**K.9 52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING. (OCT 1996)**

(a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.

(b) By signing this offer, the offeror certifies that -

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (*Check each block that is applicable.*)

\_\_\_ (i) The facility does not manufacture, process, or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

\_\_\_ (ii) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

\_\_\_ (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

\_\_\_ (iv) The facility does not fall within Standard Industrial Classification Code (SIC) designations 20 through 39 as set forth in section 19.102 of the Federal Acquisition Regulation; or

\_\_\_ (v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

**K.10 52.225-1 BUY AMERICAN ACT--BALANCE OF PAYMENTS PROGRAM--SUPPLIES. (FEB 2000)**

(a) Definitions. As used in this clause--

"Component" means any item supplied to the Government as part of an end item or of another component.

"Cost of components" means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the end product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the end product.

"Domestic end product" means--

(1) An unmanufactured end product mined or produced in the United States; or

(2) An end product manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind as those that the agency determines are not mined, produced, or manufactured in sufficient and reasonably available commercial quantities of a satisfactory quality are treated as domestic. Scrap generated, collected, and prepared for processing in the United States is considered domestic.

"End product" means supplies delivered under a line item of a Government contract.

"Foreign end product" means an end product other than a domestic end product.

"United States" means the 50 States and the District of Columbia, U.S. territories and possessions, Puerto Rico, the Northern Mariana Islands, and any other place subject to U.S. jurisdiction, but does not include leases bases.

(b) The Buy American Act (41 U.S.C. 10a-10d) provides a preference for domestic end products for supplies acquired for use in the United States. The Balance of Payments Program provides a preference for domestic end products for supplies acquired for use outside the United States.

(c) Offerors may obtain from the Contracting Officer a list of foreign articles that the Contracting Officer will treat as domestic for this contract.

(d) The Contractor shall deliver only domestic end products except to the extent that it specified delivery of foreign end products in the provision of the solicitation entitled "Buy American Act--Balance of Payments Program Certificate."

**K.11 52.226-2 HISTORICALLY BLACK COLLEGE OR UNIVERSITY AND MINORITY INSTITUTION REPRESENTATION. (MAY 1997)**

(a) Definitions. As used in this provision -

"Historically Black College or University" means an institution determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. For the Department of Defense, the National Aeronautics and Space Administration, and the Coast Guard, the term also includes any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

"Minority Institution" means an institution of higher education meeting the requirements of Section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)) which, for the purpose of this provision, includes a Hispanic-serving institution of higher education as defined in Section 316(b)(1) of the Act (20 U.S.C. 1059c(b)(1)).

(b) Representation. The offeror represents that it -

\_\_\_ is \_\_\_ is not a Historically Black College or University;

\_\_\_ is \_\_\_ is not a Minority Institution.

**K.12 52.227-15 REPRESENTATION OF LIMITED RIGHTS DATA AND RESTRICTED COMPUTER SOFTWARE. (MAY 1999)**

(a) This solicitation sets forth the work to be performed if a contract award results, and the Government's known delivery requirements for data (as defined in FAR 27.401). Any resulting contract may also provide the Government the option to order additional data under the Additional Data Requirements clause at 52.227-16 of the FAR, if included in the contract. Any data delivered under the resulting contract will be subject to the Rights in Data--General clause at 52.227-14 that is to be included in this contract. Under the latter clause, a Contractor may withhold from delivery data that qualify as limited rights data or restricted computer software, and deliver form, fit, and function data in lieu thereof. The latter clause also may be used with its Alternates II and/or III to obtain delivery of limited rights data or restricted computer software, marked with limited rights or restricted rights notices, as appropriate. In addition, use of Alternate V with this latter clause provides the Government the right to inspect such data at the Contractor's facility.

(b) As an aid in determining the Government's need to include Alternate II or Alternate III in the clause at 52.227-14, Rights in Data--General, the offeror shall complete paragraph (c) of this provision to either state that none of the data qualify as limited rights data or restricted computer software, or identify, to the extent feasible, which of the data qualifies as limited rights data or restricted computer software. Any identification of limited rights data or restricted computer software in the offeror's response is not determinative of the status of such data should a contract be awarded to the offeror.

(c) The offeror has reviewed the requirements for the delivery of data or software and states [offeror check appropriate block] --

\_\_\_ None of the data proposed for fulfilling such requirements qualifies as limited rights data or restricted computer software.

\_\_\_ Data proposed for fulfilling such requirements qualify as limited rights data or restricted computer software and are identified as follows:

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Note: "Limited rights data" and "Restricted computer software" are defined in the contract clause entitled "Rights in Data--General."

**K.13 COMPLIANCE WITH VETERANS EMPLOYMENT REPORTING REQUIREMENTS (JUNE 1999)**

(a) The Offeror represents that, if it is subject to the reporting requirements of 38 U.S.C. 4212(d) (i.e. the VETS-100 report required by the Federal Acquisition Regulation clause 52.222-37, Employment Reports on Disabled Veterans and Veterans of the Vietnam Era), it has [ ], has not [ ] submitted the most recent report required by 38 U.S.C. 4212(d).

(b) An Offeror who checks "has not" may not be awarded a contract until the required reports are filed. (31 U.S.C. 1354)

**K.14 SIGNATURE/CERTIFICATION (MAR 1999)**

By signing below, the offeror certifies, under penalty of law, that the representations and certifications are accurate, current, and complete. The offeror further certifies that it will notify the Contracting Officer of any changes to these representations and certifications. The representations and certification made by the offeror, as contained herein, concern matters within the jurisdiction of an agency of the United States and the making of a false, fictitious, or fraudulent representation or certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

\_\_\_\_\_  
Signature of the Officer or Employee  
Responsible for the Offer

\_\_\_\_\_  
Date of Execution

\_\_\_\_\_  
Typed Name and Title of the Officer or Employee  
Responsible for the Offer

Name and Address of Organization:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Solicitation Number: \_\_\_\_\_

## **SECTION L - INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS OR QUOTERS**

### **L.1 CONSECUTIVE NUMBERING (JAN 1999)**

Due to automated procedures employed in formulating this document, clauses and provisions contained within it may not always be consecutively numbered.

### **L.2 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE. (FEB 1998)**

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

<http://farsite.hill.af.mil/vffar1.htm>

### **L.3 CONTENT OF RESULTING CONTRACT (NOV 1998)**

Any contract awarded as a result of this RFP will contain PART I - The Schedule, PART II - Contract Clauses, and PART III, Section J - List of Documents, Exhibits and Other Attachments (excluding those attachments including in this RFP relating to submission of proposals). Blank areas appearing in these sections, indicated by "[TBD]" will be completed prior to contract award.

Offerors should carefully review the information contained therein, and, as appropriate, state any proposed exceptions/deviations per FAR 52.215-1.

### **L.4 PROHIBITION ON PARTICIPATION BY FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS (FFRDC) (MAR 1999)**

Federally Funded Research and Development Centers (FFRDC), including Management and Operating (M&O) contractors and/or National Laboratories are prohibited from participating at any level in proposals submitted in response to this solicitation. If a proposal is received which includes participation by FFRDC's, it will be rejected without evaluation.

### **L.5 RESPONSIBLE PROSPECTIVE CONTRACTORS (JUNE 1999)**

All responsible individuals, corporations, non-profit organizations, educational institutions, and state or local governments may submit proposals for consideration. The general and additional minimum standards for responsible prospective Contractors set forth at FAR 9.1 apply.

DOE may conduct preaward surveys in accordance with FAR 9.106 and may solicit from available sources, relevant information concerning the offeror's record of past performance, and use such information in making determinations of prospective offeror responsibility.

### **L.6 TIME, DATE AND PLACE PROPOSALS ARE DUE (JAN 2000)**

The date and time for submission of proposals shall be **NO LATER THAN June 2, 2000, 4:00 p.m.**, local prevailing time at the place designated for receipt of proposals. (See the proposal submission instructions, including the provision describing treatment of late submissions, modifications, and withdrawals of proposals.)

#### Proposal Submission by U.S. Mail

Proposals must be received at the following mailing address:

U. S. Department of Energy  
National Energy Technology Laboratory  
ATTN: Vicky L. Shears, Mailstop I07  
P.O. Box 880  
Morgantown, WV 26507-0880

#### Proposal Submission by Other than U.S. Mail

Offerors electing to submit proposals by means other than the U.S. Mail, including commercial courier service, assume the full responsibility of insuring that proposals are received at the following hand-carry address by the date and time specified above:

U.S. Department of Energy  
National Energy Technology Laboratory  
ATTN: Vicky L. Shears, Mailstop I07  
3610 Collins Ferry Road  
Morgantown, WV 26507

Such proposals must be closed and sealed as if for mailing.

#### External Marking of Proposals

Proposals shall be marked with the following information:

- (1) Address of Proposer
- (2) Solicitation Number
- (3) Due Time and Date of Proposals

#### **L.7 INTENTION TO PROPOSE (MAR 1999)**

To enable us to anticipate the number of submissions to be evaluated, please complete the information in the Intention to Propose form contained in Part III, Section J and return to the addressee shown via mail, facsimile or e-mail, by the earliest practical date.

#### **L.8 NUMBER OF AWARDS (NOV 1997)**

It is anticipated that there will be four to five award(s) resulting from this solicitation. However, the Government reserves the right to make any number of awards, or no award, if considered to be in the Government's best interest to do so.

#### **L.9 52.215-1 INSTRUCTIONS TO OFFERORS - COMPETITIVE ACQUISITION. (DEC 1999)**

(a) Definitions. As used in this provision -

"Discussions" are negotiations that occur after establishment of the competitive range that may, at the Contracting Officer's discretion, result in the offeror being allowed to revise its proposal.

"In writing or written" means any worded or numbered expression which can be read, reproduced, and later communicated, and includes electronically transmitted and stored information.

"Proposal modification" is a change made to a proposal before the solicitation's closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award.

"Proposal revision" is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

"Time," if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays. However, if the last day falls on a Saturday, Sunday, or legal holiday, then the period shall include the next working day.

(b) Amendments to solicitations. If this solicitation is amended, all terms and conditions that are not amended remain unchanged. Offerors shall acknowledge receipt of any amendment to this solicitation by the date and time specified in the amendment(s).

(c) Submission, modification, revision, and withdrawal of proposals. (1) Unless other methods (e.g., electronic commerce or facsimile) are permitted in the solicitation, proposals and modifications to proposals shall be submitted in paper media in sealed envelopes or packages (i) addressed to the office specified in the solicitation, and (ii) showing the time and date specified for receipt, the solicitation number, and the name and address of the offeror. Offerors using commercial carriers should ensure that the proposal is marked on the outermost wrapper with the information in paragraphs (c)(1)(i) and (c)(1)(ii) of this provision.

(2) The first page of the proposal must show -

(i) The solicitation number;

(ii) The name, address, and telephone and facsimile numbers of the offeror (and electronic address if available);

(iii) A statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation and agreement to furnish any or all items upon which prices are offered at the price set opposite each item;

(iv) Names, titles, and telephone and facsimile numbers (and electronic addresses if available) of persons authorized to negotiate on the offeror's behalf with the Government in connection with this solicitation; and

(v) Name, title, and signature of person authorized to sign the proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the issuing office.

(3) Submission, modification, or revisions, of proposals. (i) Offerors are responsible for submitting proposals, and any modifications, revisions, or withdrawals, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that proposal or revision is due.

(ii)(A) Any proposal, modification, or revision, received at the Government office designated in the solicitation after the exact time specified for receipt of offers is "late" and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and--

(1) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(2) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or

(3) It is the only proposal received.

(B) However, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(iii) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(iv) If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the office designated for receipt of proposals by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(v) Proposals may be withdrawn by written notice received at any time before award. Oral proposals in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile proposals, proposals may be withdrawn via facsimile received at any time before award, subject to the conditions specified in the provision at 52.215-5, Facsimile Proposals. Proposals may be withdrawn in person by an offeror or an authorized representative, if the identity of the person requesting withdrawal is established and the person signs a receipt for the proposal before award.

(4) Unless otherwise specified in the solicitation, the offeror may propose to provide any item or combination of items.

(5) Proposals submitted in response to this solicitation shall be in English and in U.S. dollars, unless otherwise permitted by the solicitation.

(6) Offerors may submit modifications to their proposals at any time before the solicitation closing date and time, and may submit modifications in response to an amendment, or to correct a mistake at any time before award.

(7) Offerors may submit revised proposals only if requested or allowed by the Contracting Officer.

(8) Proposals may be withdrawn at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer.

(d) Offer expiration date. Proposals in response to this solicitation will be valid for the number of days specified on the solicitation cover sheet (unless a different period is proposed by the offeror).

(e) Restriction on disclosure and use of data. Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall -

(1) Mark the title page with the following legend: This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed - in whole or in part - for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of - or in connection with - the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]; and

(2) Mark each sheet of data it wishes to restrict with the following legend: Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

(f) Contract award. (1) The Government intends to award a contract or contracts resulting from this solicitation to the responsible offeror(s) whose proposal(s) represents the best value after evaluation in accordance with the factors and subfactors in the solicitation.

(2) The Government may reject any or all proposals if such action is in the Government's interest.

(3) The Government may waive informalities and minor irregularities in proposals received.

(4) The Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a)). Therefore, the offeror's initial proposal should contain the offeror's best terms from a cost or price and technical standpoint. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary. If the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals.

(5) The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the offeror specifies otherwise in the proposal.

(6) The Government reserves the right to make multiple awards if, after considering the additional administrative costs, it is in the Government's best interest to do so.

(7) Exchanges with offerors after receipt of a proposal do not constitute a rejection or counteroffer by the Government.

(8) The Government may determine that a proposal is unacceptable if the prices proposed are materially unbalanced between line items or subline items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.

(9) If a cost realism analysis is performed, cost realism may be considered by the source selection authority in evaluating performance or schedule risk.

(10) A written award or acceptance of proposal mailed or otherwise furnished to the successful offeror within the time specified in the proposal shall result in a binding contract without further action by either party.

(11) The Government may disclose the following information in postaward debriefings to other offerors:

- (i) The overall evaluated cost or price and technical rating of the successful offeror;
- (ii) The overall ranking of all offerors, when any ranking was developed by the agency during source selection;
- (iii) A summary of the rationale for award; and
- (iv) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror.

**L.10 52.216-1 TYPE OF CONTRACT. (APR 1984)**

The Government contemplates award of Firm Fixed-Priced contracts resulting from this solicitation.

**L.11 FALSE STATEMENTS (NOV 1997)**

Proposals must set forth full, accurate, and complete information as required by this solicitation (including attachments). The penalty for making false statements in proposals is prescribed in 18 U.S.C. 1001.

**L.12 EXPENSES RELATED TO OFFEROR SUBMISSIONS (FEB 1998)**

This solicitation does not commit the Government to pay any costs incurred in the submission of any proposal or in making necessary studies or designs for the preparation thereof or to acquire or contract for any services.

**L.14 AMENDMENT OF THE SOLICITATION (JAN 2000)**

The only method by which any term of this solicitation may be modified is by an express, formal amendment to the solicitation generated by the issuing office. No other communication made at any scheduled preproposal conference or subsequent discussions, whether oral or in writing, will modify or supersede the terms of this solicitation. All amendments to this RFP will be posted on the NETL Homepage at "<http://www.netl.doe.gov/business/solicit/>". Receipt of an amendment to a solicitation by an offeror must be acknowledged and received prior to the hour and date specified for receipt of offers.

**L.15 CLASSIFIED MATERIAL - NONE (NOV 1997)**

Performance under the proposed contract is not anticipated to involve access to classified material.

**L.16 PREPROPOSAL CONFERENCE IS NOT PLANNED (NOV 1997)**

A preproposal conference for this solicitation is not contemplated.

**L.17 SMALL BUSINESS SIZE STANDARD AND SET-ASIDE INFORMATION (MAY 1999)**

This acquisition is a partial small business set-aside at 50 percent. For purposes of this solicitation a small business is defined as having 500 or less employees. The Standard Industrial Classification Code (SIC) is 8731.

## **L.18 PROPOSAL PREPARATION INSTRUCTIONS -- GENERAL (MAR 1999)(S)**

To aid in evaluation, proposals shall be clearly and concisely written as well as being neat, indexed (cross-indexed as appropriate), and logically assembled. All pages of each part shall be appropriately numbered, and identified with the name of the offeror, the date, and the solicitation number to the extent practicable.

The proposal is to clearly and fully demonstrate the offeror's capability, knowledge, experience, and expertise with regard to the requirements described herein. Simply stating that the offeror understands and will comply with technical and management requirements is not adequate. Similarly, phrases such as "standard procedures will be employed" or "well-known techniques will be used" are also inadequate.

### **Overall Arrangement of Proposal**

The overall proposal shall consist of two (2) physically separate volumes, individually entitled as stated below. The required number of each proposal volume is shown below.

PROPOSAL VOLUME -- TITLE	ORIGINAL	COPIES	PAGE LIMITATION
Volume I -- Offer, Other Documents	1	3	None
Volume II -- Technical Proposal	1	4	20

The text of each proposal volume shall be typed, single-spaced, using Elite size (or equivalent, such as times-roman, courier, or arial), 12 pitch type (or equivalent), and printed, unreduced on size 8 1/2-inch by 11-inch paper. For interpretation of page limitation guidelines, the front and back of a single sheet are counted as two pages. Illustrations shall be legible and no longer than 11-inch by 17-inch fold-outs, as appropriate for the subject matter. Each 11-inch by 17-inch fold-out is considered two pages when determining the number of pages. Pages of each volume shall be sequentially numbered with the volume and page numbers on each page. Except as otherwise noted in the solicitation, the page guidelines set forth constitute a limitation on the total amount of material that may be submitted for evaluation. No material may be incorporated in any proposal by reference as a means to circumvent the page limitation.

Offerors are not to provide proposal information in three-ring binders.

## **L.19 PREPARATION INSTRUCTIONS: VOLUME I - OFFER AND OTHER DOCUMENTS (MAR 1999)(S)**

Volume I, Offer and Other Documents shall include the actual offer to enter into a contract to perform the desired work, other documents requiring the signature of the offeror's authorized representative, and the offeror's description of its business and management approaches to satisfying the Statement of Work and its capability to perform the work.

### **FORMAT AND CONTENT**

Volume I, Offer and Other Documents shall include the following documents (in the order listed):

#### **1. The SF33 Form -- Solicitation, Offer and Award (Page 1 of this solicitation)**

(a) Offerors shall complete Blocks 12, 15A, 15B, 15C, 16, 20 and sign in block 17. The SF33 is to be fully executed, including the acknowledgment of amendments, if applicable, and signed by an authorized individual of the proposing organization. **Two signed originals shall be included.**

(b) The offeror's Acceptance Period (See Block 12) entered shall not be less than 180 days.

(c) Signature Authority. The person signing the SF33 must have the authority to commit the offeror to all of the provisions of the proposal, fully recognizing that the Government has the right, by terms of the solicitation, to make an award without further discussion if it so elects.



## **2. Offeror Representations and Certifications Fully Executed**

Offeror Representations and Certifications included under Section K of this solicitation are to be fully executed and a copy included in each copy of Volume I, Offer and Other Documents. As stated in Section K, should an offeror be selected for further negotiations, he must certify to the certifications referenced.

## **3. Environmental Questionnaire**

The Environmental Questionnaire included as Appendix D to this solicitation is to be completed and a copy included in each copy of Volume I, Offer and Other Documents.

## **4. Exceptions and Deviations**

The offeror shall identify and explain any exceptions or deviations taken or conditional assumptions made with respect to the model contract, Offeror Representations and Certifications, and the requirements included in Volume I -- Offer and Other Documents and Volume II -- Technical Proposal. Any exceptions taken must contain sufficient justification to permit evaluation. The benefit to the Government shall be explained for each exception taken. Such exceptions will not, of themselves, automatically cause a proposal to be termed unacceptable. A large number of exceptions, or one or more significant exceptions not providing benefit to the Government, however, may result in rejection of your proposal(s) as unacceptable. Offerors who object to review of their proposal by persons other than Government employees shall so state in this Volume I. Again, offerors are cautioned that DOE may be unable to give full consideration to proposals which indicate that only Government evaluation is authorized.

### **L.21 52.204-6 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER. (JUN 1999)**

(a) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" followed by the DUNS number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number is a nine-digit number assigned by Dun and Bradstreet Information Services.

(b) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one. A DUNS number will be provided immediately by telephone at no charge to the offeror. For information on obtaining a DUNS number, the offeror, if located within the United States, should call Dun and Bradstreet at 1-800-333-0505. The offeror should be prepared to provide the following information:

- (1) Company name.
- (2) Company address.
- (3) Company telephone number.
- (4) Line of business.
- (5) Chief executive officer/key manager.
- (6) Date the company was started.
- (7) Number of people employed by the company.
- (8) Company affiliation.

(c) Offerors located outside the United States may obtain the location and phone number of the local Dun and Bradstreet Information Services office from the Internet home page at <http://www.customerservice@dnb.com/>. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at [globalinfo@mail.dnb.com](mailto:globalinfo@mail.dnb.com).

## **L.22 PREPARATION INSTRUCTIONS: VOLUME II TECHNICAL PROPOSAL (JAN 2000)**

Volume II - Technical Proposal will be used to assess both the scientific merit of the proposed work and its relevance to both DOE's current programmatic objectives and the objectives of this solicitation (see Part I, Section J, Attachment A) The technical proposal must be self-contained and written in a clear and concise manner. The proposal shall be definitive with respect to the research which the offeror actually proposes to conduct. If the proposal is selected for comprehensive evaluation, the criteria specified in Section M shall be applied.

The maximum number of pages for the Technical Proposal shall be limited to 20 pages. Pages in excess of the recommended page limitation will not be evaluated. For interpretation of page guidelines, reference the clause entitled, "Proposal Preparation Instructions -- General". Note that the Cover Sheet, Resumes, Public Abstract, Table of Contents, Technology Demonstration Test Plan and other Pertinent Publications are not included in the page limitation.

To ensure that the technical proposal is evaluated strictly on its own merit, no cost information shall be included.

### **FORMAT AND CONTENT**

The offeror shall include a technical discussion in the format specified below. This format relates to the technical evaluation criteria found in Section M. Alternate heading names and additional headings may be included as desired.

1. **Cover Sheet.**

A completed and signed cover sheet as per FAR 52.215-1 shall be used. The title of the proposed effort should be concise and descriptive of the work to be performed.

2. **Public Abstract**

A concise public abstract of no more than one (1) typewritten page clearly stating the objectives of the proposed research, the title of the project, methodology, and sponsoring organization(s) shall be included. The abstract is to provide an overview of the proposed project objectives. It is a stand-alone document. This abstract may be released to the public by DOE in whole or in part at anytime. It is therefore required that it shall not contain proprietary data or confidential business information.

3. **Table of Contents**

In order to produce a comprehensive application for this solicitation, the applicant should address, at a minimum, the areas listed below. To help facilitate the review process and to insure addressing all the review criteria, the applicant shall use the following Table of Contents when preparing the technical application.

## TABLE OF CONTENTS

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 1. MERIT OF THE TECHNOLOGY	 1
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1.3 Prior Uses of Proposed Technology	#
 2. TECHNICAL APPROACH	 #
2.1 Technology Demonstration Test Plan Discussion	#
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B. ADDITIONAL PERTINENT PUBLICATIONS (if any)	#
C. TECHNOLOGY DEMONSTRATION TEST PLAN	#

(iv) Technical Discussion. This section shall contain the major portion of the Technical Proposal. It shall clearly address each of the Technical Proposal evaluation criteria in Part IV -- Section M, and at a minimum cover the factors listed below.

### Section 1.0 Merit of the Technology

The Offeror shall provide evidence that the proposed technology is applicable to the DOE field test needs as defined in the Scope of Work and shall provide, at the minimum, the following:

- Description of the pipeline unplugging technology including basic principle, operational parameters and conditions, applicable pipe diameters and geometry, and dimensions and weight of the model.
- Description of portability options for removing the pipeline unplugging technology model from the transportation vehicle.

The Offeror shall discuss the degree of benefit offered by the proposed technology in terms of:

- No addition to DOE waste stream from using the proposed technology.

- Health and safety, training requirements, time savings, equipment mobilization and demobilization and maintenance requirements.

The Offeror shall discuss the degree to which the proposed technology may be applicable across the DOE Complex.

The Offeror shall discuss prior uses or application of the proposed pipeline unplugging technology as evidence that the technology is deployable.

## Section 2.0 Technical Approach

This section shall describe the Offeror's technical approach to accomplish the work.

Offerors shall present a project scenario for the FIU-HCET site, clearly addressing at a minimum: roles and responsibilities of the major players with respect to mobilization, operations and demobilization of the pipeline unplugging technology.

The Offeror shall discuss the technical approach to mobilization, operations and demobilization of the pipeline unplugging technology. The Offeror shall provide a proposed test plan and schedule and include milestones and performance metrics in the work plan to gauge technical progress.

The proposed test plan shall be presented in as much detail as possible and include the following:

- Selection of Test Bed, needed utilities, special interface connections and any special requirements, modifications to the test beds, etc. to demonstrate the pipeline unplugging technology as per "Technology Demonstration Test Plan Preparation Guideline", Appendix A.
- Procedure to be used to demonstrate the pipeline unplugging technology on a Test Bed.

The Offeror shall provide a table listing the estimated labor hours and labor categories (for example, project manager, engineer, technician) required for each task. The Offeror shall discuss the rationale used to develop estimates for labor hours and labor categories. Cost information is not to be included in the technical proposal volume.

The Offeror shall describe the proposed travel. The Offeror shall include in the explanation the purpose of the trip, number of trips, the origin and destination, trip duration, and the number of personnel proposed to travel.

## Section 3.0 Personnel Qualifications, Project Organization and Experience

The Offeror shall describe relevant technical and managerial experience, qualifications, and availability of the proposed project personnel.

The Offeror shall discuss any prior experience in managing projects that were similar in type, size, and complexity; and specifically discuss any prior experience in deploying the proposed or similar pipeline unplugging technology.

The Offeror shall discuss any outside commitments which might conflict with performance of this project. The Offeror shall indicate their degree of ownership and control of the technology.

## **APPENDICES**

### A. RESUMES ..... A1

The Offeror shall include a resume for each individual expected to perform significant technical work on the project. At a minimum, the resume must include the individual's name, educational achievements (i.e.

degree(s) obtained, date and education institution), and any additional information which validates their ability to perform the work as proposed.

B. ADDITIONAL PERTINENT PUBLICATIONS (if any) ..... B1

The Offeror should include bibliographies of any publications which are related to the proposed pipeline unplugging technology.

C. TECHNOLOGY TEST PLAN ..... C1

**L.24 952.227-84 NOTICE OF RIGHT TO REQUEST PATENT WAIVER. (FEB 1998)**

Offerors have the right to request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of the contract that may be awarded as a result of this solicitation, in advance of or within 30 days after the effective date of contracting. Even where such advance waiver is not requested or the request is denied, the contractor will have a continuing right under the contract to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the contract. Domestic small businesses and domestic nonprofit organizations normally will receive the patent rights clause at DEAR 952.227-11 which permits the contractor to retain title to such inventions, except under contracts for management or operation of a Government-owned research and development facility or under contracts involving exceptional circumstances or intelligence activities. Therefore, small businesses and nonprofit organizations normally need not request a waiver. See the patent rights clause in the draft contract in this solicitation. See DOE's patent waiver regulations at 10 CFR part 784.

**L.25 INFORMATION OF AWARD (NOV 1997)**

Written notice to unsuccessful offerors and contract award information will be promptly released in accordance with DOE regulations applicable to negotiated acquisitions.

**L.26 DISPOSITION OF SOLICITATION MATERIALS AND PROPOSALS (FEB 1998)**

Drawings, specifications, and other documents supplied with the solicitation may be retained by the offeror (unless there is a requirement for a document to be completed and returned as a part of the offer).

Offeror's Proposals will not be returned (except for timely withdrawals).

**L.27 52.233-2 SERVICE OF PROTEST. (AUG 1996) and 952.233-2 (APR 1995)**

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from [Contracting Officer designate the official or location where a protest may be served on the Contracting Officer.]

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(c) Another copy of a protest filed with the General Accounting Office shall be furnished to the following address within the time periods described in paragraph (b) of this clause: U.S. Department of Energy, Assistant General Counsel for Procurement and Financial Assistance (GC-61), 1000 Independence Avenue, S.W., Washington, DC 20585 Fax: (202) 586-4546.

**L.29 952.233-4 NOTICE OF PROTEST FILE AVAILABILITY. (SEP 1996)**

(a) If a protest of this procurement is filed with the General Accounting Office (GAO) in accordance with 4 CFR Part 21, any actual or prospective offeror may request the Department of Energy to provide it with reasonable access to the protest file pursuant to FAR 33.104(a)(3)(ii), implementing section 1065 of Public Law 103-355. Such request must be in writing and addressed to the contracting officer for this procurement.

(b) Any offeror who submits information or documents to the Department for the purpose of competing in this procurement is hereby notified that information or documents it submits may be included in the protest file that will be available to actual or prospective offerors in accordance with the requirements of FAR 33.104(a)(3)(ii). The Department will be required to make such documents available unless they are exempt from disclosure pursuant to the Freedom of Information Act. Therefore, offerors should mark any documents as to which they would assert that an exemption applies. (See 10 CFR part 1004.)

**L.30 952.233-5 AGENCY PROTEST REVIEW. (SEP 1996)**

Protests to the Agency will be decided either at the level of the Head of the Contracting Activity or at the Headquarters level. The Department of Energy's agency protest procedures, set forth in 933.103, elaborate on these options and on the availability of a suspension of a procurement that is protested to the agency. The Department encourages potential protesters to discuss their concerns with the contracting officer prior to filing a protest.

## **SECTION M - EVALUATION FACTORS FOR AWARD**

### **M.1 GENERAL (MAR 1998)**

Proposals will be evaluated in accordance with applicable DOE acquisition policies and procedures. Evaluation will be performed to determine the offeror's understanding of work to be performed, technical approach, potential for completing the work as specified in the solicitation, price, and ranking with competing offerors.

Award will be made to that responsible offeror(s), whose offer(s), conforming to this solicitation, is (are) considered most advantageous to the Government, considering the Evaluation Criteria in this Section M.

### **M.2 OVERALL RELATIVE IMPORTANCE OF EVALUATION CRITERIA (NOV 1997)**

The technical proposal is significantly more important than price. However, price may be the deciding factor for selection, depending on whether the most acceptable overall proposal (excluding price) is determined to be worth the price differential, if any. The offer and other documents proposal is to be evaluated for adequacy and compliance with the solicitation, and price.

### **M.3 EVALUATION CRITERIA (MAY 1999)**

#### **A. Technical Criteria**

Technical aspects of proposals will be evaluated in accordance with the following criteria, which are listed in descending order of importance. Within each criterion, subcriteria are either listed in descending order of importance, or are approximately equal in weight.

#### **Criterion 1. Merit of the Technology (60%)**

Evidence presented that the proposed technology is applicable to the DOE field test needs as defined in the Scope of Work.

Degree of benefit offered by the proposed technology in terms of:

- Application in typical DOE waste transfer pipeline sizes and configurations.
- No addition to DOE waste stream from using the proposed technology.
- Health and safety, training requirements, time savings, equipment mobilization and demobilization, maintenance requirements, and secondary waste generation (if any) and disposition.

Degree to which the proposed technology is applicable across the DOE Complex.

Extent of prior use of the proposed technology for similar applications. The technology should be either commercially available or a prototype that is fully developed, mobile and ready to perform a large-scale demonstration.

#### **Criterion 2. Technical Approach (20%)**

Soundness of technical approach to mobilization, operations and demobilization of the technology. Clarity, completeness and feasibility of the proposed work plan and schedule.

Reasonableness of proposed labor hours, labor categories and travel.

Compatibility of proposed technology field test schedule with available site schedule.

Criterion 3. Personnel Qualifications and Experience (20%)

Extent of the Offeror's technical and managerial experience, qualifications, and the availability of personnel who are proposed to perform the field test. Also, the role of the Offeror's personnel in performing operations, equipment mobilization and demonstration.



**Technology Demonstration Test Plan Preparation Guideline**  
**“Large Scale Equipment Tests for Pipeline Unplugging Technologies”**  
**DE-RP26-00NT40708**

## **1.0 Introduction**

The objective of this guideline is assist the Offeror in preparing a test plan in coordination with FIU-HCET to best demonstrate its technology. This test plan is required as part of the proposal (Contract section L.22, “Proposal Preparation Instructions”). The point of contacts at FIU-HCET that will assist the Offeror in preparing the test plan are:

Ms. Yumiko Sukegawa (primary contact)  
 Phone: (305)348-6306 Fax: (305)348-1697 E-mail: <yumiko@eng.fiu.edu>

Dr. Peter Skudarnov  
 Phone: (305)348-2377 Fax: (305)348-1697 E-mail: <peterv@eng.fiu.edu>

## **2.0 Preparation of Test Plan by Offeror**

The offeror shall prepare a test plan with the format and contents as defined in Section 6.0 below. A detailed description of the Test Beds are contained in Appendix B. The Test Beds are subject to modification (as agreed to in the Test Plan) based on the specific requirements of the pipeline unplugging technology to be tested.

Table 1, is the generic test case matrix for potential equipment tests on all three of the large-scale Test Beds. It shows the specifications and location(s) of the blockages. Different types of blockages with different length will be placed in each Test Bed. The description of the access point(s), access pipe diameter and access point conditions for the three different Test Beds are also provided in Table 1. The Internet drawings referenced in Table 1 can be found at URL :  
 <[www.hcet.fiu.edu/r&d/tfa/unplugging/](http://www.hcet.fiu.edu/r&d/tfa/unplugging/)>

The test plan will be developed between the Offeror and the FIU-HCET point of contacts identified in Section 1.0 above. After contract award, the field test of the contractor’s technology shall be performed in accordance with the test plan submitted as part of the proposal. Changes, if any, made to the test plan during negotiations, will be reflected in the test plan incorporated into the contract. The test plan shall not be altered after contract award.

Attachment G of the model agreement titled, Field Test Evaluation Parameters, contains the performance measures, data to be collected and collection methods for the field test demonstration.

### **3.0 Test Plan Resource Requirements**

(a) FIU-HCET will provide the following test bed resources to the technology contractor for the duration of the field test:

- 60 psi, 6 gpm potable water supply 100 yards from the test site
- 110 volt, 15 amp single phase electrical supply 100 yards from the test site
- light-duty all terrain fork lift (6,000 – 8,000 lb. Rated)
- management and disposal of all waste materials generated during the field test

(b) Technology contractors are required to supply:

- all equipment including rigging (if required), support equipment, spare parts and tools
- all personal protective equipment (see Section 4.0 below)
- operating procedures for pipeline unplugging equipment
- brief introduction to the technology and equipment, which will be video-taped as part of the field test file
- other equipment not provided by FIU-HCET

### **4.0 Health and Safety Requirements during Test Bed Operations**

The Personal Protection Equipment (PPE) requirements for all personnel who enter the site of the three Test Beds located at FIU-HCET during the field test are at a minimum level D. Level D PPE includes a shirt, work gloves, long pants, and safety glasses. Additional PPE may be required by the contractor depending on the nature of the technology. Contractors shall consult its health and safety officer regarding PPE requirements for its technology.

FIU-HCET evaluators and the DOR/COR will continuously monitor the technology test based on information given in the contractor's Job Safety Analysis form and the FIU-HCET Work Permit. Any indication of an unsafe condition (actual or perceived) identified by any observer of the test shall be sufficient cause to interrupt the test until the condition is corrected and/or explained to the satisfaction of FIU-HCET and DOE/COR representatives.

### **5.0 Typical Field Test Procedure Example**

Two weeks prior to the field test:

The contractor submits the information required in the Statement of Work.

FIU-HCET and DOR/COR confirms the final field test schedule with the technology contractor.

One week prior to the field test:

FIU-HCET generates a Work Permit based on the technology contractor's Job Safety Analysis.

The DOE/COR arranges a conference call with the FIU-HCET Project Manager and the technology contractor's Project Manager to discuss (1) when the equipment will arrive at FIU-HCET, (2) when the technology contractor's crew will arrive at FIU-HCET, and (3) a detailed field test schedule.

#### First day of demonstration

The technology contractor is responsible for the following regarding its equipment: 1) cleaning, 2) calibration and adjustment, 3) maintenance, and any other activities that assure the integrity of the system, equipment, and data.

FIU-HCET evaluators, the DOR/COR and the technology contractor will review the technology test plan, project specific health and safety plan, and the FIU-HCET Work Permit.

At no time will the technology contractor be allowed to unload or load equipment or start field testing without the presence of FIU-HCET evaluators and the DOR/COR.

Depending on the technology to be tested, Test Bed(s) and blockage(s) will be arranged according to the technology specific Test Plan. The following steps are examples that may be followed on the first day of the field test.

- 1)The contractor's equipment operator(s), the FIU-HCET evaluator, the DOR/COR, the Project Managers of both FIU-HCET and the contractor, and IUOE personnel review the technology test plan before the start of the field test.
- 2)The contractor's equipment operator(s) will set up necessary equipment in place and get ready for the field test. For example, if the equipment is going to be operated three feet off the ground and requires a support system, such a system will be set up and secured for the operation by the contractor's equipment operator(s).
- 3)The contractor's equipment operator(s) will perform the testing when the FIU-HCET evaluator is ready to take the necessary information regarding the field test. The field test shall not be performed without the presence of the DOE/COR, FIU-HCET evaluator and the FIU-HCET Project Manager.
- 4)FIU-HCET evaluators will collect data and take measurements.
- 5)Waste generated during the field test will be collected by the contractor and recorded by FIU-HCET evaluators. Primary and secondary waste will be placed in properly sized containers provided by FIU-HCET and clearly labeled. FIU-HCET is responsible for waste disposal.

5) Photos will be taken by FIU-HCET evaluators. Photos shall, at minimum, include each piece of equipment, removed blockages, and technology operation. All photos taken during field test shall be recorded in a film log.

6) Video recording will be performed by FIU-HCET. The video shall contain (1) a brief description of the technology and equipment given by the contractor; (2) equipment operation; and (3) working environment conditions.

Once the initial test of the technology is complete, test conditions will be changed and the same procedure will be repeated if the technology is being tested on different blockage material and/or Test Bed. Due to the nature of the simulated blockage, no sample analysis is required.

## **6.0 Test Plan Format and Contents**

TITLE:

1. TECHNOLOGY SPECIFIC TEST CASE (Identify the required Test Bed(s) and define at least one technology specific test case that will provide the basis for the demonstration of your technology under standardized, non-nuclear conditions)
2. MODIFICATIONS REQUIRED TO THE TEST BED (Discuss any modifications to the Test Bed(s), if required, to best demonstrate the pipeline unplugging equipment, as developed in coordination with FIU-HCET.)
3. FIELD TEST PROCEDURE AND SCHEDULE (Provide a tentative schedule for the testing of your technology and a proposed agenda for the day or days at the FIU-HCET Test Beds, as developed in coordination with FIU-HCET. Define any rigging or support equipment that you plan to bring to the FIU-HCET site to assist in setting up and/or performing the field test of your technology.)
4. CONTRACTOR PERSONNEL THAT WILL BE PRESENT DURING THE FIELD TEST (Identify your test personnel by number and function. At a minimum the contractor shall provide a full-time project manager and an equipment operator during the field test.)
5. REQUIRED PERSONAL PROTECTION EQUIPMENT (Identify any PPE requirements greater than Level D that your equipment operator may be required to meet in order to safely demonstrate your technology.)
6. HEALTH AND SAFETY REQUIREMENTS (Provide a statement that your operator is qualified to operate your equipment safely. Also provide a copy of your liability insurance.)

**Table 1. Generic Test Case Matrix**

	<b>Test Bed #1</b>	<b>Test Bed #2</b>	<b>Test Bed #3</b>	
			<b>Single pipe</b>	<b>Double pipe</b>
<b>Blockage material</b>	Glass or epoxy	Bentonite with sand or clay	Bentonite with sand or clay	Bentonite with sand or clay
<b>Blockage number(s)</b>	2	5	2	1
<b>Blockage length</b>	3 to 10 feet	3 to 10 feet	3 to 10 feet	3 to 10 feet
<b>Blockage location</b>	2 inch pipeline at 1 and 5 foot elevation (see Figure D.1(d)) elevation (see Internet Drawing No. TB #1-001)	Section A-B, E-F, G-H, I-J, and J-K (see Figure D.2(c)) and J-K (see Internet Drawing No. TB#2-001 & TB#2-002)	At both ends of the berm (see Figure D.3(c)) (see Internet Drawing No. TB#3-001)	At the center of the berm (see Figure D.3(c)) (see Internet Drawing No. TB#3-001)
<b>Water submerged condition</b>	Indicate if the technology can be operated in aqueous condition.	Indicate if the technology can be operated in aqueous condition.	Indicate if the technology can be operated in aqueous condition.	Indicate if the technology can be operated in aqueous condition.
<b>Pipe structure</b>	N/A	N/A	Indicate if the technology will be tested on a single wall pipe.	Indicate if the technology will be tested on a double wall pipe.
<b>Access type</b>	clean out pipe, jumper without clean out pipe, gate valve, or 2 inch pipeline (see inch pipeline	Hanford connector nozzle (3 inch diameter) or 3 inch pipeline (see Figure pipeline	N/A	N/A
<b>Access diameter</b>	1 inch if the equipment goes through the gate valve and/or jumper. 2 inch without access pipe	3 inch	N/A	N/A

## TEST BED DESCRIPTIONS

### “Large Scale Equipment Tests for Pipeline Unplugging Technologies”

DE-RP26-00NT40708

#### 1.0 TEST BED DESCRIPTIONS

The Test Beds are designed to reflect typical pipe diameters and blockage resistance that would be encountered at DOE sites. There are two documents<sup>†</sup> available regarding the description of the Test Beds and blockage materials. They can be viewed at:

<[www.hcet.fiu.edu/r&d/tfa/unplugging/documents.asp](http://www.hcet.fiu.edu/r&d/tfa/unplugging/documents.asp)>.

Photographs and engineering drawings of the Test Beds can be viewed at:

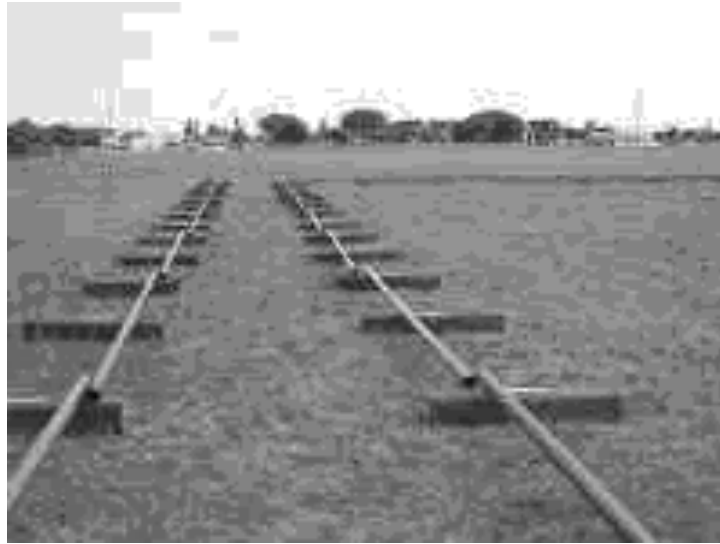
<[www.hcet.fiu.edu/r&d/tfa/unplugging/](http://www.hcet.fiu.edu/r&d/tfa/unplugging/)>.

The Northeast corner of the FIU-HCET site (450 ft by 450 ft) is reserved for the Test Beds. The engineering drawing “Site Map of Large Scale Test Beds” on the internet site (URL identified immediately above) shows the area for construction and describes how the test beds are located relative to each other.

Figure 1(below) is a photograph taken during the construction phase of Test Bed #2. Pipelines are laid out on the railroad ties using Unistruts®. Since each pipe section is 20 ft long, the pipelines for all the three Test Beds are welded or put together with flanges on site.

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<sup>†</sup> “*Description of Large-Scale Test Beds for Equipment Tests of Pipeline Unplugging*”, Yumiko, Hemispheric Center for Environmental Technology, FIU, Miami, FL. August 4, 1999  
 “*Blockage Specification for Large-Scale Test Beds for Equipment Tests of Pipeline Unplugging*”, Yumiko, Hemispheric Center for Environmental Technology, FIU, Miami, FL. August 13, 1999.



**Figure 1. Site of Large-scale Demonstration Test Beds at FIU.**

### **1.1 Test Bed #1: SRS Evaporator Gravity Drain Pipeline (2 inch pipes with 1 inch access, including lift line and jumper)**

Test Bed #1 (select “Test Bed #1” on the internet site identified in Section 1.0) is constructed to reflect typical pipe diameters and blockage resistance encountered at the Savannah River Site (SRS) Evaporator Drain system, with hard deposits on the inside of the pipelines. Drawing Number TB #1-001 (from the internet site) is a schematic diagram of Test Bed #1. It shows the two parts of the Test Bed #1 on which the technology will be demonstrated:

- the gravity drain pipeline with one-inch access pipe and gate valve,
- the SRS Evaporator Jumper that will be placed on the ground level with a one-inch cleanout pipe as an entrance point.

All lines are two inches in diameter with blockage consisting of hard deposits on the inside surface.

The characteristics of the pipeline blockage in Test Bed #1 include:

- Glass, epoxy, or other simulant producing a hard, adherent coating on the inside surface of the pipe.
- Length of blockage: 3 feet minimum, 10 feet maximum

## **1.2 Test Bed #2: Horizontal Long Pipeline**

**(3 inch pipe with 3 inch access; 1765 feet long)**

Test Bed #2 (select “Test Bed #2” on the internet site identified in Section 1.0) is constructed to demonstrate the capabilities of reaching and unplugging technologies in a long pipeline. The primary function of a reaching system is to reach the locations of pipeline blockages. Test Bed #2 pipeline has a total length of 1,765 feet with both left and right turning elbows to challenge the technology (see Drawings TB#2-001 and TB#2-002 on the internet site). Access point is either a 3-inch pipe thread or Hanford connector nozzle that also has 3-inch diameter opening located at one end of the pipeline.

The characteristics of the pipeline blockage in Test Bed #2 include:

- Total solid concentration 50 - 80 wt% of solids of Bentonite with sand, china clay, or other simulant producing a bulk blockage
- Length of blockage: 3 feet minimum, 10 feet maximum

## **1.3 Test Bed #3: Buried Pipeline for Blockage Detection Through the Ground (3-inch diameter single and double wall pipes)**

Test Bed #3 (select “Test Bed #3” on the internet site identified in Section 1.0) is constructed to demonstrate the capabilities of equipment that can determine the location of a pipeline blockage. The equipment positioned above ground would determine the location of a blockage in the core of a buried, jacketed pipe assembly as shown in Drawing Number TB#3-001 on the internet site.

The characteristics of the pipeline blockage in Test Bed #3 include:

- Total solid concentration 50 - 80 wt% of solids of Bentonite with sand, china clay, or other simulant producing a bulk blockage
- Length of blockage: 3 feet minimum, 10 feet maximum
- Radioactive sealed gamma source or other material may be available to test a specific through-the-ground detection system.



**INTENTION TO PROPOSE (MAY 1998)**

SOLICITATION NUMBER: DE-RP26-00NT40708

WE \_\_\_\_\_ DO \_\_\_\_\_ DO NOT INTEND TO SUBMIT A PROPOSAL.

NAME AND ADDRESS OF FIRM OR ORGANIZATION (Including Zip Code)

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\_\_\_\_\_  
AUTHORIZED SIGNATURE\_\_\_\_\_  
DATE

TYPED OR PRINTED NAME AND TITLE: \_\_\_\_\_

TELEPHONE NO.: \_\_\_\_\_

FACSIMILE NO.: \_\_\_\_\_

E-MAIL ADDRESS: \_\_\_\_\_

Unless otherwise stated in the solicitation, no other solicitation material should be returned if you do not intend to submit a proposal. Please return this form to:

MAIL TO: U.S. Department of Energy  
FEDERAL ENERGY TECHNOLOGY CENTER  
ATTN: Vicky L. Shears  
P.O. Box 880  
3610 Collins Ferry Road  
Morgantown, WV 26507-0880

VIA FACSIMILE: (304) 285-4683

VIA E-MAIL: [vshear@netl.doe.gov](mailto:vshear@netl.doe.gov)

## **ENVIRONMENTAL QUESTIONNAIRE**

### **I. BACKGROUND**

The Department of Energy's (DOE) National Environmental Policy Act (NEPA) Implementing Procedures (10 CFR 1021) require careful consideration of the potential environmental consequences of all proposed actions during the early planning stages. DOE must determine at the earliest possible time whether such actions require either an Environmental Assessment or an Environmental Impact Statement, or whether they qualify for Categorical Exclusion. To comply with these requirements, an Environmental Questionnaire must be completed for each proposed action to provide DOE with the information necessary to determine the appropriate level of NEPA review.

### **II. INSTRUCTIONS**

Separate copies of this Environmental Questionnaire should be completed by the principal offeror and each proposed subcontractor. In addition, if the proposed project includes activities at different locations, an independent questionnaire should be prepared for each location. Supporting information can be provided as attachments.

In completing this questionnaire, the proposer is requested to provide specific quantities regarding air emissions, wastewater discharges, solid wastes, etc., to facilitate the necessary review. In addition, the proposer should identify the exact location of the project and specifically describe the activities that would occur at that location.

To expedite completion of this questionnaire, diskette copies in WordPerfect 6.1 are available upon request. Questions regarding the type of information requested or the approach to preparing responses should be referred to Lloyd Lorenzi, U.S. Department of Energy, National Energy Technology Laboratory, by phone (412) 892-6159, fax (412) 892-6127, or E-mail (lorenzi@netl.doe.gov).

### **III. QUESTIONNAIRE**

#### **A. PROJECT SUMMARY**

1. Solicitation Number: \_\_\_\_\_
2. Proposer & all Proposed Subcontractors: \_\_\_\_\_
3. Principal Investigator: \_\_\_\_\_  
Telephone Number: \_\_\_\_\_
4. Project Title: \_\_\_\_\_
5. Duration: \_\_\_\_\_
6. Location (city/township, county, state): \_\_\_\_\_
7. Indicate the type or scale of project:
 

<ol style="list-style-type: none"> <li>a. <input type="checkbox"/> Computer Modeling</li> <li>c. <input type="checkbox"/> Paper Study</li> <li>e. <input type="checkbox"/> Laboratory (Batch) Research</li> <li>g. <input type="checkbox"/> Pilot- or Proof-of-Concept-Scale Research</li> <li>i. <input type="checkbox"/> Full-Scale Demonstration</li> </ol>	<ol style="list-style-type: none"> <li>b. <input type="checkbox"/> Library/Literature Search</li> <li>d. <input type="checkbox"/> Workshop/Conference</li> <li>f. <input type="checkbox"/> Bench-scale Research</li> <li>h. <input type="checkbox"/> Pilot Plant Construction/Operation</li> <li>j. <input type="checkbox"/> Other (please describe): _____</li> </ol>
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8. Indicate the size of the proposed project and the primary material processed (e.g., 200 tph of coal).

_____	tph (of _____)	_____	MM Btu/hr
_____	scfm (of _____)	_____	MW <input type="checkbox"/> electric <input type="checkbox"/> thermal
_____	acfm (of _____)	_____	Other: _____

- 9a. Summarize the proposed work. List all activities or tasks planned at the location covered by this Environmental Questionnaire.
- 
- 

- 9b. Characterize the work site at this location (check all that apply).

☐ Existing Building (Indoors)      ☐ Developed Site      ☐ Undeveloped Site

10. List all other locations where work would be performed. (**Note: Submit a separate Environmental Questionnaire for each location.**)
- 
- 

11. Describe the objectives of the proposed project.
- 
- 

12. Identify the planned number of tests, the frequency of testing (e.g., tests per week), and the duration of tests by type (e.g., laboratory tests, pilot unit runs, etc.).
- 
- 

13. Identify all materials that would be used and produced by the project (materials can be grouped by category) and estimate their total quantities over the entire duration of the proposed project.

Materials Used (total quantity)		Materials Produced (total quantity)	
<input type="checkbox"/>	coal (_____)	<input type="checkbox"/>	wastewater (_____)
<input type="checkbox"/>	natural gas (_____)	<input type="checkbox"/>	air emissions (_____)
<input type="checkbox"/>	oil (_____)	<input type="checkbox"/>	solid waste (_____)
<input type="checkbox"/>	electricity (_____)	<input type="checkbox"/>	hazardous waste (_____)
<input type="checkbox"/>	water (_____)	<input type="checkbox"/>	salable by-products --
<input type="checkbox"/>	air (_____)		list and note quantity
<input type="checkbox"/>	organic solvents (_____)		
<input type="checkbox"/>	others -- list and note quantity:	<input type="checkbox"/>	others -- list and note quantity:
<input type="checkbox"/>	None	<input type="checkbox"/>	None

**B. PROPOSED PROJECT AND ITS ALTERNATIVES**

1. List all alternative approaches considered to achieve the objectives described in A.11 and discuss the anticipated environmental effects of each. (Place the selected approach at the top of the list.)

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2. Identify the environmental consequences of not implementing this project (e.g., emission increase).

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**C. PROJECT LOCATION**

1. Provide a brief description of the project location (physical location, surrounding area, adjacent structures).

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2. Attach a site plan or topographic map of the area that would be affected by the project and highlight (or otherwise identify) the specific location where the project would be performed.

**CERTIFICATION BY PROPOSER**

I hereby certify that the information provided herein is current, accurate, and complete as of the date shown immediately below.

DATE:                      /                      /  
                                 month                      day                      year

SIGNATURE: \_\_\_\_\_

TYPED NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

ORGANIZATION: \_\_\_\_\_